THE SARS COMMISSION

Executive Summary

Spring of Fear

Volume 1

The Honourable Mr. Justice Archie Campbell
December, 2006

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Dedication

*This report is dedicated to those who died from SARS,
those who suffered from it, those who fought the disease,
and all those affected by it.*

Letter of Transmittal

COMMISSION TO INVESTIGATE
THE INTRODUCTION AND
SPREAD OF SARS IN ONTARIO
The Honourable Archie Campbell
Commissioner

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December 11, 2006

The Honourable George Smitherman MPP
Minister of Health and Long-Term Care
10th Floor Hepburn Block
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Toronto, Ontario
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Dear Mr. Minister:

Pursuant to the terms of reference, letter of appointment, and Order in Council establishing the independent SARS Commission I submit the attached third and final report.

Yours truly,

Archie Campbell
Commissioner

Introduction

SARS was a tragedy. In the space of a few months, the deadly virus emerged from the jungles of central China, killed 44 in Ontario and struck down more than 330[1] others with serious lung disease. It caused untold suffering to its victims and their families, forced thousands into quarantine, brought the health system in the Greater Toronto Area and other parts of the province to its knees and seriously impacted health systems in other parts of the country.

Nurses lived daily with the fear that they would die or infect their families with a fatal disease. The nine-year-old daughter of one nurse asked:

> Mommy, are you going to die?

Respiratory technicians, doctors, hospital workers, paramedics and home care workers lived with the same fear.

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[1] For the purpose of this report, the Commission will use the number of SARS cases presented at its public hearings by Dr. Colin D'Cunha on September 29, 2003: 247 probable cases and 128 suspect cases for a total of 375. These numbers were also contained in the final version of the Health Canada document "Canadian SARS Numbers" issued on September 3, 2003 (see http://www.phac-aspc.gc.ca/sars-sras/cn-cc/20030903_e.html). This was the final tally of SARS cases reconciled between Ontario authorities and Health Canada. It is this number (375) that is used in the report.

A retrospective study by the Ministry of Health and affected public health units issued in July 2006 suggested there were 351 SARS cases in Ontario, 301 probable and 50 suspect. We may never know how many people actually had SARS. The numbers are uncertain because SARS mimicked other diseases such as community acquired pneumonia, because there was no ready diagnostic test and because governments never seemed able to agree fully on how to count the cases. The retrospective study of SARS cases in Ontario cautioned: "As a result of only including cases meeting the Health Canada definition, it is not possible to know the range of the clinical spectrum of SARS illness; this report would likely represent cases at the more severe end of the clinical spectrum for SARS. For example, there were children who were part of family clusters of SARS and had either fever or mild respiratory symptoms, but did not meet the clinical criteria of the case definition and were not included in the case count. Some of these children had serological testing and were positive for antibodies to SARS-CoV, therefore it is possible that SARS is a milder illness in children than in adults". (Ministry of Health and Long-Term Care, in conjunction with the SARS Outbreak Analysis Committee, "Descriptive epidemiology of the severe acute respiratory syndrome (SARS) outbreak" Ontario, Canada, 2003, July 2006).

The Ontario Nurses' Association surveyed its members after the outbreak and found that almost two-thirds felt their health and safety had been compromised during the SARS outbreak. More than half felt their SARS work was not adequately respected or they were unsure if it was respected.

Their concerns were reflected in comments such as these:

> I was torn between staying and quitting because my husband was scared.
>
> Nobody listens to nurses.
>
> Totally devastating on family life.

Hospitals closed; cancer treatments and heart surgery were postponed. Patients were denied visitors. The sick and the dying suffered without the consolation of their families. The dead were disposed of quickly and in the absence of family and friends. The wider impact of SARS through cancelled heart surgery and delayed cancer treatments will never be known. And SARS was also an economic disaster for the country, the province and the GTA in particular.

Things happened that should never have happened: deaths, unspeakable loss, untold suffering. Where should we direct our outrage, our anger?

The evidence discloses no scapegoats. This was a system failure. The lack of preparation against infectious disease, the decline of public health, the failure of systems that should protect nurses and paramedics and others from infection at work – all these declines and failures went on through three successive governments of different political stripes. So too, in a sense, we as citizens failed ourselves because we did not insist that these governments protect us better.

SARS taught us lessons that can help us redeem our failures. If we do not learn the lessons to be taken from SARS, however, and if we do not make present governments fix the problems that remain, we will pay a terrible price in the face of future outbreaks of virulent disease.

Why was Ontario so unprepared for SARS? Our public health and emergency infrastructures were in a sorry state of decay, starved for resources by governments of all three political parties. The health system's capacity to protect its workers was in a state of neglect: what little existed was badly malnourished. There was no system in place to prevent SARS or to stop it in its tracks. The only thing that saved us from a worse disaster was the courage and sacrifice and personal initiative of those who stepped up – the nurses, the doctors, the paramedics and all the others – sometimes at great personal risk, to get us through a crisis that never should have happened. Underlying all their work was the magnificent response of the public at large: patient, cooperative, supportive.

But once is enough. If the deep systemic problems revealed by SARS are not fixed before the next crisis, will these individuals and the public step up once more? Will they throw themselves again into the breaches left open by the inaction of governments?

While SARS was a vicious disease, it presented us an opportunity to see a window into our strengths and weaknesses and to ask "what if" about many health issues. Asking those questions and holding governments accountable for their answers is the only way to ensure that we are protected when we are hit with the next outbreak or pandemic.

In the wake of SARS many questions arise, including:

Why does SARS matter today?
How bad was SARS?
What went right?
What went wrong?
Were precautions relaxed too soon?
Who is there to blame?
Was information withheld?
Did politics intrude?
Was SARS I preventable?
Was SARS II preventable?
Were health workers adequately protected?
Are we safer now?
What must be done?

This third and final Commission report, based on public hearings, government and hospital documents, and confidential interviews of more than 600 people connected with SARS, tells the story of SARS and addresses these questions.

The Commission's first interim report, in April 2004, addressed the deep problems of public health infrastructure in Ontario and what must be done to make us safer. The Commission's second interim report, in April 2005, addressed glaring deficiencies in Ontario health protection and emergency response laws and what must be done to correct them.

Although the Ontario government has taken significant steps to improve our level of protection from infectious outbreaks like SARS, serious problems persist and much remains to be done.[2]

Why should we care about SARS now, three years after the event?

We should care about SARS because we should never forget the loss and suffering, and we should never forget the courage shown by so many. We should care about SARS because it was a wake-up call and it holds the lessons we must learn to protect ourselves against future similar outbreaks and against the global influenza pandemic predicted by so many scientists.

On February 23, 2003, Mrs. K, the 78-year-old matriarch of a large Scarborough family, returned home from a visit to Hong Kong. Unknowingly infected with SARS after staying at the same hotel as a doctor from China's Guangdong Province, she died at home from apparent heart failure on March 5. Her son, Mr. T, was admitted to Scarborough Grace Hospital (the Grace)on March 7. Suffering from a febrile respiratory illness, he waited in the crowded emergency ward for over 16 hours. During these hours he transmitted SARS to two other patients, sparking a chain of infection that spread through the Scarborough Grace Hospital, then to other hospitals through patient transfers and ultimately killed 44 and sickened more than 330 others.

On March 7, British Columbia's index patient, who had stayed at the same hotel in Hong Kong as Mrs. K, was admitted to Vancouver General suffering from SARS, but there was no further spread. A combination of a robust worker safety and infection control culture at Vancouver General, with better systemic preparedness ensured that B.C. was spared the devastation that befell Ontario.

By contrast, at the Grace, the early chain of transmission from Mr. T to the first 84 cases, as shown in the following chart,[3] took place very quickly. The transmission of these 84 probable and suspect cases could be linked to the six members of the index family (the index case, her son and four members of the son's family).

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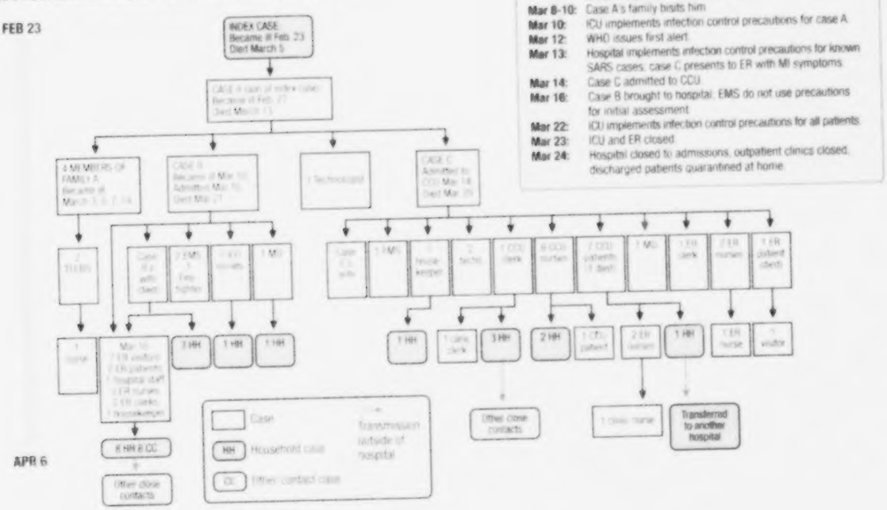
2. *The Health System Improvements Act*, 2006 was introduced to the Legislative Assembly on Tuesday December 12 after this report was in the hands of the typesetter. The Commission has had no opportunity to analyze it in detail and this footnote is added in the stage of proof correction. Bill 171 is a step forward in the sense that it proposes to implement approximately seven of the unimplemented recommendations of the Commission set out in the April 2004 and April 2005 interim reports. For concerns about the lack of accountability of the proposed CDC North to the Chief Medical Officer of Health see the recommendations in this final report.
3. Varia et al., "Investigation of a nosocomial outbreak of severe acute respiratory syndrome (SARS) in Toronto, Canada," Canadian Medical Association Journal 170, no. 6 (March 16, 2004): 927 (Varia et al., "Investigation of a nosocomial outbreak of SARS.").

FIGURE 2: Transmission of 84 probable and suspect cases of SARS in the nosocomal outbreak that could be linked to the 6 members of the index family (the index case, her son [case A] and 4 members of case A's family)


FEB 23
INDEX CASE
Became ill Feb. 23
Died March 5
CASE A (son of index case)
4 MEMBERS OF FAMILY A
CASE B
1 Technologist
CASE C
1 EMS
house-keeper
2 techs
1 CCU clerk
8 CCU nurses
7 CCU patients (1 died)
1 MD
1 ER clerk
2 ER nurses
1 ER patient (died)
1 nurse
3 HH
1 HH
1 HH
1 HH
3 HH
2 HH
1 HH
1 ER nurse
1 visitor
8 HH 8 CC
Other close contacts
Other close contacts
Transferred to another hospital
APR 6
Case
HH Household case
CC Other contact case
Transmission outside of hospital

Feb 23: Index case becomes ill
Mar 7: Son of index case (cas A) presents to ER, transmits SARS to 2 patients (case B and C)
Mar 8-10: Case A's family bisits him
Mar 10: ICU implements infection control precautions for case A
Mar 12: WHO issues first alert
Mar 13: Hospital implements infection control precautions for known SARS cases; case C presents to ER with MI symptoms
Mar 14: Case C admitted to CCU
Mar 16: Case B brought to hospital; EMS do not use precautions for initial assessment
Mar 22: ICU implements infection control precautions for all patients
Mar 23: ICU and ER closed
Mar 24: Hospital closed to admissions, outpatient clinics closed, discharged patients quarantined at home

SARS spread rapidly from the Scarborough Grace Hospital through the Toronto-area hospital system. The largest group of victims was health workers, because occupational safety[4] and infection control systems,[5] which are supposed to act together seamlessly, one focused on safeguarding workers, the other on protecting patients,[6]

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[4] "The purpose of an Occupational Health (OH) program is to promote the health and well-being of employees by providing a safe and healthy workplace, to prevent or decrease transmission of infection to or from health care workers due to workplace hazards, including biohazards, and to adhere to legislation". (Health Canada, *Prevention and control of occupational infections in Health Care: An infection control guideline* [Ottawa: Health Canada, 2002], p. 1).

[5] "Nosocomial infections, acquired by patients as a result of receiving health care, are under the purview of IC [Infection Control]" (Health Canada, *Prevention and Control of Occupational Infections in Health Care*, p. 2).

[6] Close cooperation between these two medical disciplines is essential for the safe operation of a health care facility. Health Canada's *Prevention and Control of Occupational Infections in Health Care* (2002) states:

> A component of the OH [occupational health] program relates specifically to infection control and must be planned and delivered in collaboration with the Infection Control (IC) program of the workplace. While this document supports the close collaboration of OH personnel with those responsible for the IC program, it does not discuss measures that IC practitioners use to assess and control infections in the patient population. Rather, it notes the essential collaboration of both groups working together where responsibilities overlap, especially in the management of

failed to save them from harm. Two nurses and a doctor died. A provincial emergency was declared on March 26 and strict measures were taken to contain the outbreak. "Code Orange" froze hospital transfers and admissions, paralyzing the health system.

There was very little spread into the community. Community spread was stopped immediately by bold public health efforts and stringent quarantine measures. By the last week in April, the tough countermeasures had proved successful and the outbreak subsided.

Ironically, it was just then, on April 23, that the World Health Organization (WHO) issued a travel advisory against Toronto, an economic disaster for the city and the province. Ontario's Minister of Health and others flew to Geneva and the travel ban was revoked after a week.

On May 1, Ontario and Health Canada took out large newspaper ads saying "Canada Has Turned the Corner on SARS," that Toronto was safe for business and tourism. Muted declarations of victory were heard. Soon it became official. The emergency was lifted on May 17, the province breathed a big sigh of relief, infection control and worker safety precautions were relaxed, hospitals held celebrations and the health system returned to the "new normal."

Then something terrible happened. On May 23, officials called a press conference to announce that a few new SARS cases had been discovered at St. John's Rehabilitation Centre. It was revealed, almost as an afterthought, that a "few" patients at North York General Hospital also were being investigated for possible SARS. Under questioning by the media, the truth emerged. A major outbreak of SARS had erupted at North York General Hospital. SARS was back with a vengeance.

We know now that SARS never went away. It had continued to simmer undetected at North York General Hospital. As soon as precautions were relaxed in early May, the disease surged back and spread, again undetected, to patients, staff, visitors and their families.

Stringent infection control and worker safety precautions, so recently relaxed, were imposed once more. Health workers donned their N95 respirators and gowns and gloves again. As soon as precautions were reinstated, the disease again subsided. We

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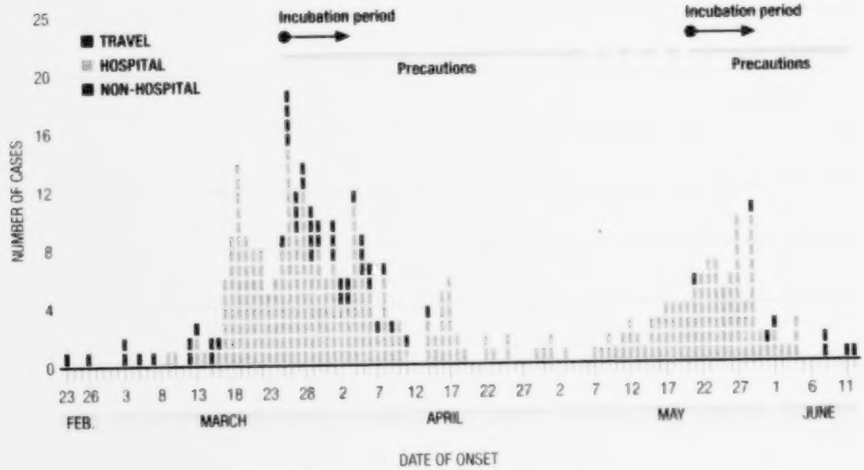
outbreaks. Various workplaces will define the distinct roles of OH and IC practitioners differently to suit their health care environment, p.17.

know now that behind the scenes a simple rule of nature was at work. Precautions up, disease down; precautions down, disease up. This chart[7] shows the remorseless pattern.

The Distribution of Cases in the Severe Acute Respiratory Syndrome (SARS) Outbreak in Ontario, Canada, from February 23 to June 12, 2003.



The second outbreak was devastating. In the end, 118 people contracted SARS through their affiliation or contact with North York General Hospital. Of these 118 people, 54 were health workers and 64 were patients or visitors.[8] Of these of the 127 people, 17 died. Of these 17, one was Nelia Laroza, a highly respected and much loved nurse who worked on 4 West, the orthopedic unit where SARS simmered undetected and undiagnosed. For those who fell ill and for those who lost loved ones, the cost of SARS II is immeasurable.

Whenever one speaks of cost, the cost to the government to protect us better, the cost to hospitals of better infection control, surveillance, and worker safety, we should never forget the cost of SARS in sickness, pain, suffering, and unspeakable loss.

The second outbreak also had a terrible impact on the morale of health workers. Many lost faith in the system and the ability of their employers to protect them. It was not only the public who had been led to believe that SARS was gone. Nurses and health workers were told that SARS was contained and that there were no new cases of SARS. SARS was over. Nurses at North York General, concerned about outbreaks of staff illness and clusters of SARS-like illness were told again and again by the hospital "Not SARS" when it turned out that these cases were in fact SARS.

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[7] Dr. Donald Low and Dr. Allison McGeer, "SARS – One Year Later," NEJM 349:25, December 2003.

[8] Presentation of Dr. Colin D'Cunha, SARS Commission Public Hearings, September 29, 2003.

On May 23rd, 2003, nurses and others at North York General learned, along with the rest of the world, that SARS was not in fact over. It was not contained. There were new cases of SARS right in their midst. Many of their colleagues were ill with SARS. In the coming days it turned out that 39 workers[9] at North York General had fallen ill with SARS, after they had been told SARS was over.

But yet again these nurses and doctors and clerks and technicians were asked to step into danger. And once again they did. Once again they risked their lives and health for the sake of others. What is it in their character and their professional culture that produced this courage? Will they heed that call the next time if they lack confidence that governments and hospitals will protect them better?

The stories of the outbreaks at Scarborough Grace Hospital and North York General Hospital reveal the systemic province-wide inadequacy of preparedness, infection control and worker safety systems. Common problems and themes emerge from the stories of both outbreaks. They reflect seven systemic problems that run like steel threads through all of SARS, through every hospital and every government agency.

- Communication
- Preparation, planning
- Accountability: who's in charge, who does what?
- Worker safety
- Systems: infection control, surveillance, independent safety inspections
- Resources: people, systems, money, laboratories, infrastructure
- Precautionary principle: action to reduce risk should not await scientific certainty

The lesson from the stories of Scarborough Grace and North York General, and others, is not that they deserve blame. The lesson is that because of systemic weaknesses what happened there could have happened at almost any other hospital in the province.

We must also remember that both Scarborough Grace Hospital and North York General are home to some of the finest and most dedicated physicians, nurses, administrators and health workers in Canada. Many of those doctors, nurses and other health workers worked tirelessly on the front lines during SARS, putting their lives at risk to help others. They watched their friends and colleagues fall ill, at times they had to care for them, all the while hoping they would not be next. As one Scarborough Hospital nurse so eloquently described her SARS experience:

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[9] Presentation of Dr. Colin D'Cunha, SARS Commission Public Hearings, September 29, 2003.

> To watch this unfold, I don't have vocabulary to express it. Just thinking about it has been difficult. I think you can't comprehend especially SARS I how scary it was at that time because we had no idea. As we were shipping these people out to West Park and we are gloved, gowned and masked and you are reaching to touch these people not knowing if you will ever see them again, helping them get onto bus, all we knew in media was that people were dying. They probably had no idea what they were facing either. In my nursing career I have never faced anything so frightening. Looking back I think at the time because we were tired and we were working, because it was so surreal you didn't have the opportunity to absorb it. That's when the nightmares came. The going in circles, the questioning, did we do it right, could we have done it better?

One nurse from 4 West, the epicentre of the second outbreak at North York General Hospital, who worked the weekend of May 24 and 25, 2003, after learning that SARS was back and that many of her friends and colleagues were ill, recalled how afraid she and her family were, knowing she had to go back to work the next day, in the epicentre of the outbreak:

> I remember going Saturday morning and I said to my husband, he was in the other room, and I said, I'm going to go, but I am so afraid, and I saw my husband's face and we both had tears in our eyes because I thought I was the next one to get it. I was just so emotional. I just felt so awful. I have to go in, I'm still standing here, I haven't got SARS-well, to me I didn't have SARS-but I thought I was going to be the next one, cause all our nurses were falling down.

When she was asked by the Commission if she ever considered not going to work, she said:

> I was one of the ones that could go in, to help my work. I think it's your duty to go in as a nurse, to go to the last, to the very end.

These are the heroes of SARS. Nothing in this report detracts from their dedication, hard work and sacrifice. Nor does it detract from the distinction of the Scarborough

Hospital or North York General as excellent hospitals. To tell their stories is not to point fingers or assign blame, it is simply to tell what happened without any findings of civil or criminal liability and without any adverse finding against the hospitals or anyone associated with it.

The surprise is not that Ontario's response to SARS worked so badly, but that it worked at all, given the lack of preparation and systems and infrastructure. Despite these problems, and despite the inevitable mistakes with a new disease and a system unprepared for it, SARS was stopped by the front-line workers and the scientists and specialists who stepped up and who were not afraid to take the strong measures that worked in the end.

One of the most contentious issues during SARS was the N95 respirator, which was supposed to protect nurses and other workers during close contact with SARS patients.[10] Although Ontario law required, since 1993, that anyone using an N95 had to be properly trained and fit tested to ensure full protection, few hospitals complied with this law and some even denied its existence. Fit testing was the subject of official confusion and heated public debate. It became a lightning rod for all the underlying problems of worker safety in hospitals.

The real problem is not the N95 respirator but the deep structural contradictions in hospital worker safety. These problems include a profound lack of awareness within the health system of worker safety best practices and principles. They include the failure of the Ministry of Labour to proactively inspect SARS hospitals until June 2003, when the outbreak was virtually over. In B.C., by contrast, the workplace regulator took decisive action and began inspections in early April, wanting to ensure that workers were being protected from the start as required by law. The problems include those in hospital administration and health bureaucracies who resist advice and enforcement on hospital turf by independent worker safety experts and the provincial Ministry of Labour. Most important, the problems include Ontario's failure to recognize in hospital worker safety the precautionary principle that reasonable action to reduce risk, like the use of a fitted N95 respirator, need not await scientific certainty.

There were during SARS two solitudes: infection control and worker safety. Infection control relies on its best current understanding of science as it evolves over time. It is unnecessary to point out again that infection control failed to protect nurses during SARS.

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[10] The N95 was sometimes required in other areas of a hospital even when not caring for SARS patients. The provincial directives for the use of the N95 changed throughout SARS were not always clear or consistent.

Worker safety relies on the precautionary principle that reasonable action to reduce risk should not await scientific certainty. More will be said below about these two solitudes.[11]

The debate about the N95, respiratory protection and fit testing can be understood only in the context of the heavy burden of disease that fell on hospital workers, paramedics and others who worked in Ontario's health system during SARS. Two nurses and a doctor died from SARS. Almost half those who got SARS in hospital were people who got SARS on the job from working there.

Part of the heated debate during the SARS outbreak was over whether N95 respirators were really necessary. Those who argued against the N95, which protects against airborne transmission, believed SARS was spread mostly by large droplets. As a result, they said, an N95 was unnecessary except in certain circumstances and a surgical mask was sufficient in most instances. They made this argument even though knowledge about SARS and about airborne transmission was still evolving. That more and more studies[12] have since been published indicating the possibility under certain circumstances of airborne transmission, not just of SARS but of influenza, suggests the wisdom and prudence of taking a precautionary approach in the absence of scientific certainty.

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[11] This is a good place to note that Chief Medical Officer of Health Dr. Sheela Basrur has taken steps to improve this situation. Only time will tell if these steps are effective. Dr. Basrur notes in her letter of March 9, 2006, to Linda Haslam-Stroud, RN, President, Ontario Nurses Association:

> We recognize the need to ensure that the perspectives of occupational health and infection control receive consideration. In light of this, an occupational health physician is included in the membership of PIDAC and has been sitting on the committee since the inception of PIDAC in 2004. However, we see the importance in continuing to strengthen our links with the occupational health field and a physician delegate from the Ministry of Labour is now also sitting on PIDAC. This highlights our commitment to ensuring that occupational health and safety expertise is brought to the table during all PIDAC deliberations now and in the future. We are confident that building on this approach will assist in ensuring stronger linkages between occupational health and infection control on matters of science.

[12] I.T.S. Yu, Y.Li, T.W. Wong, et al., "Evidence of airborne transmission of the severe acute respiratory syndrome," *New England Journal of Medicine* 350 (2004): 1731-1739; Chad J. Roy and Donald K. Milton, "Airborne transmission of communicable infection-the elusive pathway," *New England Journal of Medicine* 350 (2004), www.nejm.org; I.T.S. Yu et al., "Temporal-spatial analysis of severe acute respiratory syndrome among hospital inpatients," *Clinical Infections Disease* 40 (2005): 1237-1243; Booth et al., "Detection of airborne severe acute respiratory syndrome (SARS) coronavirus and environmental contamination in SARS outbreak units," *Journal of Infectious Diseases* 191 (2005): 1472-1477; Tommy R. Tong, "Airborne severe acute respiratory syndrome coronavirus and its implications," *Journal of Infectious Diseases* 191 (2005): ; National Academy of Sciences, *Reusability of Face Masks During an Influenza Pandemic* (Washington, D.C.: National Academy of Sciences, April 2006); R. Tellier, "Review of aerosol transmission of influenza A virus," *Emerging Infectious Disease* (November 2006), www.cdc.gov/ncidod/EID/vol12noll/06-0426.htm.

The point is not who is right and who is wrong about airborne transmission. The point is not science, but safety. Scientific knowledge changes constantly. Yesterday's scientific dogma is today's discarded fable. When it comes to worker safety in hospitals, we should not be driven by the scientific dogma of yesterday or even the scientific dogma of today. We should be driven by the precautionary principle that reasonable steps to reduce risk should not await scientific certainty.

Until this precautionary principle is fully recognized, mandated and enforced in Ontario's hospitals, workers will continue to be at risk.

Of the almost 375 people who contracted SARS in Ontario, 72 per cent were infected in a heath care setting. Of this group, 45 per cent were health workers. Most of these workers were nurses whose jobs brought them into the closest contact with sick patients. And this does not show the full burden of SARS on nurses and paramedics and other health workers. In many cases nurses sick with undetected SARS brought illness, and in some cases death, home to their families.

One nurse answering the Ontario Nurses' Association questionnaire wrote:

> Fear … job not worth risk of dying. Lack of trust that nursing was being protected.

The Commission is not surprised that in Vancouver, with its greater systemic awareness of and commitment to worker safety, only one health worker contracted SARS.

Again and again, health workers in Ontario were told they were safe if they would only do what they were directed to by the hospitals and the government. Again and again, these confident scientific assurances turned out to be tragically wrong. The March 17 Scarborough Grace Hospital incident, the March 24 Mount Sinai Hospital incident, the April 13 Sunnybrook Hospital incident and the May 28 North York General Hospital incident show dramatically that the system, despite its scientific self-confidence, was incapable of protecting workers from SARS.

It is no wonder that health workers became alarmed when they saw their colleagues sicken and die. It is no wonder that they became angry when they saw such incidents recur again and again with no apparent improvement in their safety. Nurses protested that hospitals did not comply with the safety law that required that N95 respirators had to be fitted to ensure proper protection.

It is easy to forget that everyone makes mistakes and that hospitals acted and continue to act in good faith. Ontario was not alone in its failure to protect health workers during SARS. The challenge of this new disease overcame the extent of their current scientific understanding. That is why it is better to forget dogmatic arguments based on current scientific understanding. That is why it is better to follow the precautionary principle that reasonable action to reduce risk should not await scientific certainty. And that is why it is important to recognize that Vancouver, which was spared the devastation that SARS inflicted on Ontario, had a far greater systemic commitment to the precautionary principle.

Hospitals did their best within the limits of their lack of preparation, their generally inadequate infection control systems and their inadequate worker safety systems. Inevitably they made mistakes in the fog of war against an invisible enemy. There was no lack of good faith in the administration of the existing systems, flawed though they were. Hospitals learned a lot from SARS, and a lot is better now. Hospitals are more conscious of infection control and worker safety. North York General Hospital, for instance, now has infection control and worker safety systems that have earned the praise of its nurses.

The Ministry of Labour learned a lot too. It now has staff with health care–specific expertise, and it has conducted stringent proactive inspections of all acute care facilities.

Our hospitals still have a long way to go, especially in worker safety and with the pushback from some against outside advice and help from the safety standards community and the Ministry of Labour. Hospitals are dangerous workplaces, like mines and factories, yet they lack the basic safety culture and workplace safety systems that have become expected and accepted for many years in Ontario mines and factories and in British Columbia's hospital.

Some of the same Ontario hospital leaders who argued against the N95 respirator required to protect nurses and who actually denied there was a safety law that required the N95 to be fit tested[13] still insist that science, as it evolves from day to day, comes before safety. If the Commission has one single take-home message it is the precautionary principle that safety comes first, that reasonable efforts to reduce risk need not await scientific proof. Ontario needs to enshrine this principle and to enforce it throughout our entire health system.

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[13] See "It's Not About the Mask," in Volume 3.

The Commission has not heard of any country or any health system that foresaw SARS. No one foresaw the sudden emergence of an invisible unknown disease with no diagnostic test, no diagnostic criteria, uncertain symptoms, an unknown clinical course, an unknown incubation period, an unknown duration of infectivity, an unknown virulence of infectivity, an unknown method of transmission, an unknown attack rate, an unknown death rate, an unknown infectious agent and origin, no known treatment and no known vaccine.

SARS taught us that we must be ready for the unseen. That is one of the most important lessons of SARS. Although no one did foresee and perhaps no one could foresee the unique convergence of factors[14] that made SARS a perfect storm, we know now that new microbial threats like SARS have happened and can happen again. However, there is no longer any excuse for governments and hospitals to be caught off guard and no longer any excuse for health workers not to have available the maximum level of protection through appropriate equipment and training.

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[14] See Institute of Medicine, Microbial threats to health: emergence, detection, and response, (March 2003). This paper noted, ironically just as SARS hit us, earlier warnings, and said, "We must do more to improve our ability to prevent, detect, and control emerging – as well as resurging – microbial threats to health." It warned presciently against a potentially "catastrophic storm of microbial threats."

Thirteen Essential Questions

Introduction

SARS raised serious questions. Thirteen of the most important ones are addressed here. Some answers are terribly clear. Were health workers adequately protected? Clearly not. Other answers are less obvious. Could SARS II have been prevented? If so, how? This section will summarize these answers as they emerge from the Commission's evidence and findings.

It is too easy after a public health crisis to assign individual blame. This is not to say in hindsight that mistakes were not made or that systems should not be blamed. But honest mistakes are inevitable in any human system. There is always more than enough blame to go around if good faith mistakes made in the fog of crisis are counted in hindsight as blameworthy.

The approach of this Commission as set out in its mandate and as reflected in its approach is not to apportion blame but to find out what happened, to figure out how to fix the problems revealed by SARS, to learn from these tragedies and to give a legacy of betterment to those who died, those who fell ill, those who suffered so much and those who fought it with such courage.

1. Why Does SARS Matter Today?

It is fair to ask, in respect of this final report, after so many reports and investigations, the Naylor Report and the Walker Report and the Commission's 2004 and 2005 interim reports, so what? What is gained now by telling in detail the story of SARS?

Why does SARS matter today, more than three years after the event, after the government and the media have moved on to other crises, after those who suffered from SARS have moved on as best as they can?

After every disaster like SARS the years recede and memories fade. There is always pain that has been forgotten, and things we choose not to recall. If we forget the suffering and courage seen in the SARS crisis we diminish the sacrifices of Tecla Lin, Nelia Laroza, Dr. Nestor Yanga and all those who died and those who suffered. Their suffering and courage should not be in vain.

We must remember SARS because it holds lessons we must learn to protect ourselves against future outbreaks, including a global influenza pandemic predicted by so many scientists. If we do not learn from SARS and we do not make the government fix the problems that remain, we will pay a terrible price in the next pandemic.

2. How Bad Was SARS?

The numbers, that 375 people contracted SARS and 44 died, do not tell the complete story of how bad SARS was. They do not reflect the unspeakable losses of families affected by SARS. They do not reflect the systemic failures that permitted these deaths and illnesses.

SARS had Ontario's health system on the edge of a complete breakdown. The wonder is not that the health system worked so badly during SARS, but that it worked at all. SARS also badly hurt Ontario's international reputation, setting up an unfortunate link in the minds of many in other countries between Toronto and a mysterious deadly disease.

Worst of all, SARS demonstrated how many earlier wake-up calls had been ignored, and how few of their warnings had been heeded. Many of the fault lines that appeared during SARS were identified by earlier investigations and commissions, notably the Krever Inquiry into tainted blood and the O'Connor Inquiry into tainted water.

SARS may be the last wake-up call we get before the next major outbreak of infection, whether it turns out to be an influenza pandemic or some other health crisis. That is why we cannot forget how bad SARS was, and how much terrible suffering and loss we must avoid the next time around. The tragedy of SARS, these stories of unbearable loss and systemic failure, give the public every reason to keep the government's feet to the fire in order to complete the initiatives already undertaken to make us safer from infectious disease.

3. What Went Right?

Despite its deep flaws, the system was supported by people of extraordinary commitment. What pulled us through was the hard work and the courage of those who stepped up and fought SARS. What went right in a system where so much went wrong is their dedication in the midst of chaos and enormous workload pressures. It was a tireless fight in the fog of battle against a deadly and mysterious disease. We should be humbled by their efforts.

SARS produced so many heroes that it is impossible to identify them all and no attempt has been made to do so. Some happen to be mentioned in this report when their names are essential to the narrative.

One hero was the public, which rose magnificently to meet the challenge. Any fight against infectious disease depends above all on public cooperation. SARS could not have been contained in Toronto without the tremendous public cooperation and without the individual sacrifice of those who were quarantined. It is essential to ensure that the spirit of cooperation shown during SARS is not taken for granted. It must be nurtured and promoted.

4. What Went Wrong?

SARS took hold because of a confluence of systemic weaknesses in worker safety, infection control and public health. The Commission's first interim report identified 21 deep systemic flaws in public health infrastructure. The second interim report identified serious shortcomings in health protection and emergency management laws. This final report identifies further areas of unresolved problems, particularly in the domain of health worker safety. Because of these systemic weaknesses, SARS was a disaster waiting to happen.

The public health system was broken, neglected, inadequate and dysfunctional. It was unprepared, fragmented, uncoordinated. It lacked adequate resources, was professionally impoverished and was generally incapable of fulfilling its mandate.

Ontario was not prepared for a public health crisis like SARS. It didn't even have a pandemic plan.

There was a grave lack of worker safety expertise, resources and awareness in the health system, a lack whose impact was compounded by a similar lack of infection control expertise and resources. Not only that, but infection control and worker safety operated as two solitudes, and public health and hospitals operated as separate silos. And the Ministry of Labour was sidelined.

Also missing were two key components of a safe workplace: Neither internal responsibility systems nor joint health and safety committees were, in general, fulfilling their intended roles and responsibilities.

The trust of health workers in the ability of government, safety laws, and their employers to safeguard them and their colleagues was broken. Health workers learned that those in charge were poorly informed and inadequately advised to make pronouncements on worker safety and personal protective equipment. A prime example was the lack of awareness throughout the health and hospital system of the legal requirement for respirator fit testing.

5. Were Precautions Relaxed Too Soon?

In May 2003, the government implemented a series of measures that led to the relaxation of precautions on May 13 and to the lifting of the provincial emergency four days later. But SARS had not gone away. How could victory over SARS have been declared when it was spreading undetected at North York General Hospital? Were precautions relaxed too soon?

Knowing when to announce the "all clear" is very difficult. There were similar instances during the Spanish flu pandemic of 1918–1919, when victory was declared too early. Decision makers are in a tough spot during a public health emergency. React too early in a preventive mode and they may be accused of having generated another "swine flu" problem. Lift precautions too early and they may be accused of recklessness and bowing to political pressure.

There is no easy answer to the question of whether precautions were lifted too soon. In hindsight it turned out to be a mistake because as soon as precautions were relaxed the SARS cases simmering undetected at North York General flared up into the second outbreak. But the decision was made at the time in good faith on the best medical advice available and after two incubation periods with no new detected cases did it appear appropriate to relax the precautions and institute the "new normal" with precaution levels higher than they were before SARS.

As noted in the report, one of the underlying reasons for the second outbreak was the lack of any system to ensure surveillance of the kind that would have detected the North York General cases before they spread. Although the relaxation of precautions triggered the second outbreak, its more underlying cause has more to do with the lack of systems to ensure adequate surveillance.

6. Who Is There to Blame?

No one. The evidence throws up no scapegoats. This will disappoint those who seek someone to blame.

It is too easy to seek out scapegoats. The blame game begins after every public tragedy. While those who look for blame will always find it, honest mistakes are inevitable in any human system. There is always more than enough blame to go around if good faith mistakes made in the heat of battle are counted in hindsight as blameworthy.

More important than blame is to find out what happened, to figure out how to fix the problems, to learn something from these tragedies, to give a legacy of betterment to those who died and those who fell ill and those who suffered so much.

This was a system failure. We were all part of it because we get the public health system and the hospital system we deserve. We get the emergency management system we deserve and we get the pandemic preparedness we deserve. The lack of preparation against infectious disease, the decline of public health, the failure of systems that should protect nurses and paramedics and doctors and all health workers from infection at work, all these declines and failures went on through three successive governments of different political stripes. We all failed ourselves, and we should all be ashamed because we did not insist that these governments protect us better.

It is also hard to find blame because blame requires accountability. Accountability was so blurred during SARS that it is difficult even now to figure out exactly who was in charge of what. Accountability means that when something goes wrong you know who to look for and you know where to find them. That kind of accountability was missing during SARS and remains blurred even today. What we need is a system with clear lines of authority and accountability to prepare us better for the next infectious outbreak.

7. Was Information Withheld?

There is no evidence that information was deliberately withheld. But there is much evidence of serious communication failure.

Bad communication is a steel thread throughout the story of SARS. Poor communication exacerbated a confusing and terrible time. This happened again and again.
In February and early March 2003, health workers in Ontario, unlike their colleagues in B.C., were not alerted to the emergence of a mysterious new disease in China and Hong Kong. Until mid-May 2003, directives failed to remind employers of their worker safety legal obligations. And over and over when new hospital outbreaks were detected, there were inordinate delays before all workers who might have been exposed were contacted.

Bad communication between governments and agencies and hospitals is evidenced in many cases throughout this report. Although a real effort was made by government and public health to give the public timely and accurate information, performance was mixed. In some instances public communication was excellent, as in the work of Dr. Sheela Basrur, the Chief Medical Officer of Health for Toronto. In some instances, like the disastrous May 23 press conference, public communication was like a train wreck.

8. Did Politics Intrude?

The Commission finds on the basis of the evidence and analysis set out in this chapter that there was no political or economic pressure brought to bear on the health system or public health or hospitals in order to minimize or hide SARS or to say that a SARS case was not SARS or to declare prematurely that SARS was over.

9. Was SARS I Preventable?

There is an element of speculation in any attempt to say whether a disaster could have been prevented by this measure or that measure. History is full of what-ifs. Like every other historical what-if, there is an element of speculation in any attempt to say whether the SARS disaster could have been prevented, by earlier isolation and investigation, by a differently configured emergency room, by different infection control procedures, worker safety precautions or training or alertness.

The short answer is no, SARS I was not preventable. No country escaped SARS entirely. Vancouver certainly did better than Toronto. Although the presentation of the index cases was much different in each case, there are enough similarities to warrant comparison in terms of preparedness and worker safety systems. There was undoubtedly an element of good fortune that saved Vancouver from the devastation that SARS wrought on Ontario. But it must also be said that Vancouver made its own luck with better preparedness and systemic strengths.

It cannot be proven that SARS I could have been prevented if Ontario's systemic weaknesses in preparedness, surveillance, worker safety, infection control and public health had been adequately addressed before SARS. It is likely that SARS I could have been contained more quickly and with less damage had the right systems been in place in Ontario.

In B.C., even if the province was luckier than Ontario in the presentation of its index case, SARS was, nonetheless, more effectively contained in a jurisdiction with better preparation and more robust and more collaborative worker safety, infection control and public health systems.

British Columbia provides a useful example of how well things can work and how well health workers can be protected when there is a strong safety culture. It provides an example of how things can and should work in Ontario.

10. Was SARS II Preventable?

We will never know if SARS II could have been prevented.

What can be said, for the reasons set out below, is that the opportunity was greater to prevent SARS II than to prevent SARS I, and that SARS II could have been caught earlier and its impact lessened had the right systems been in place.

First, as a mostly nosocomial outbreak, SARS spread primarily within the contained space of health workplaces. Unlike a flu pandemic, it did not spread uncontrollably in the community. Second, it spread precisely in the kind of workplaces that should be optimally prepared to protect patients, visitors and workers from infectious diseases. Third, it occurred more than two months after Mr. T presented at Scarborough Grace Hospital. It is one thing to be caught off guard, as Ontario was, at the start of SARS. It is another to have failed to learn enough over a two-month period to prevent a major recurrence.

The problem was that these factors, which should have made it easier to prevent and control SARS II, were undermined by the many systemic flaws revealed by SARS, including insufficient surveillance, inadequate infection control expertise and resources, a lack of worker safety resources and expertise, blurred accountability, and inadequate communication systems between hospitals and public health.

11. Were Health Workers Adequately Protected?

The answer is no. It is tragically clear that health workers were not adequately protected. This is demonstrated by the heavy burden of disease on hospital workers, paramedics and others who worked in Ontario's health system during SARS. Two nurses and a doctor died from SARS. Other health workers fell ill, including paramedics, medical technicians and cleaners, and many of them unknowingly infected their families. Almost half of those who contracted SARS were health workers who got it on the job. It would have been one thing if all had been infected at the start of the outbreak when little was known about the disease. The full extent of worker safety failings during SARS is revealed by the fact that workers continued to get sick in April and up to the end of May, long after the Scarborough Grace outbreak.

Table 1 – Probable and Suspect SARS Cases Contracted in Health Care Settings[15]

Category	Phase 1	Phase 2	Total Number of Suspect and Probable Cases	Percentage of Total Number of Cases (375)
Health Workers	118	51	169	45%
Patients	23	35	58	15%
Visitors	20	23	43	11%
Total	161	109	270	72%

Many factors contributed to this. There was a lack of worker safety resources and expertise in the health system heading into SARS. The health system generally did not understand its obligations under worker safety laws and regulations. There was a lack of understanding of occupational safety as a discipline separate from infection control. Infection control and occupational safety operated as two solitudes. The Ministry of Labour was largely sidelined during SARS; its ability to play a greater enforcement and regulatory role as required by law to protect workers had been seriously undermined by funding and resource cuts in the 1990s.

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[15] Presentation of Dr. Colin D'Cunha, SARS Commission Public Hearings, Sept. 29, 2003.

12. Are We Safer Now?

The short answer is yes, somewhat safer. The long answer that we are not yet as safe as we should be.

The Commission's first interim report, in April 2004, addressed the deep problems of public health infrastructure in Ontario and what must be done to make us safer. The Commission's second interim report, in April 2005, addressed glaring deficiencies in Ontario's health protection and emergency response laws and what must be done to correct them.

Although the Ontario government and individual hospitals have taken significant steps to improve our level of protection from infectious outbreaks such as SARS, serious problems persist. Much remains to be done. What has been accomplished thus far, though commendable, marks the beginning of the end of the effort to fix the problems revealed by SARS. The end will not be reached until Ontario has a health system with robust and collaborative infection control, worker safety and public health functions.

As the Commission's second interim report said:

> After long periods of neglect, inadequate resources and poor leadership, it will take years of sustained funding and resources to correct the damage.[16]

13. What Must Be Done?

SARS revealed a broad range of systemic failures: the lack of preparation against infectious disease outbreaks, the decline of public health, the failure of systems that should protect nurses and paramedics and others from infection at work, the inadequacy of infection control programs to protect patients and visitors to health facilities, and the blurred lines of authority and accountability.

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[16] SARS Commission, second interim report, p. 297.

SARS taught us lessons that can help us redeem our failures. These lessons are reflected in the Commission's recommendations for change.

Perhaps the most important lesson of SARS is the importance of the precautionary principle. SARS demonstrated over and over the importance of the principle that we cannot wait for scientific certainty before we take reasonable steps to reduce risk. This principle should be adopted as a guiding principle throughout Ontario's health, public health and worker safety systems.

If we do not learn this and other lessons of SARS, and if we do not make present governments fix the problems that remain, we will leave a bitter legacy for those who died, those who fell ill and those who suffered so much. And we will pay a terrible price in the face of future outbreaks of virulent disease, whether in the form of foreseen outbreaks like flu pandemics or unforeseen ones, as SARS was.

SARS taught us that we must be ready for the unseen. SARS taught us that new microbial threats like SARS have happened and can happen again. And it gave us a first-hand glimpse of the even greater devastation a flu pandemic could create.

There is no longer any excuse for governments and hospitals to be caught off guard, no longer any excuse for health workers not to have available the maximum reasonable level of protection through appropriate equipment and training, and no longer any excuse for patients and visitors not to be protected by effective infection control practices.

As the Commission warned in its first interim report:

> Ontario … slept through many wake-up calls. Again and again the systemic flaws were pointed out, again and again the very problems that emerged during SARS were predicted, again and again the warnings were ignored.
>
> The Ontario government has a clear choice. If it has the necessary political will, it can make the financial investment and the long-term commitment to reform that is required to bring our public health protection against infectious disease up to a reasonable standard. If it lacks the necessary political will, it can tinker with the system, make a token

investment, and then wait for the death, sickness, suffering and economic disaster that will come with the next outbreak of disease.

The strength of the government's political will can be measured in the months ahead by its actions and its long-term commitments.[17]

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[17] SARS Commission, first interim report, p. 210.

Recommendations

Introduction

The first interim report, *SARS and Public Health in Ontario*, focused on public health renewal. The Commission said:

> Because government decisions about fundamental changes in the public health system are clearly imminent, this interim report on the public health lessons of SARS is being issued at this time instead of awaiting the final report … The fact that the Commission must address public health renewal on an interim basis is not to say it is more important than any other urgent issue such as the safety and protection of health care workers. It is simply a case of timing.[18]

The Commission set out 21 principles for reforming the shortcomings of the public health system demonstrated by SARS. It also made recommendations to address urgent problems that had to be corrected to prevent another tragedy like SARS, including a lack of provincial public health leadership, insufficient public health capacity and resources, inadequate provincial laboratory capacity, a lack of central public health coordination and expertise, an absence of public health emergency preparedness, and a lack of public health links with hospitals, health workers and others.

The second interim report, *SARS and Public Health Legislation*, focused on public health legislation. The Commission said:

> This second interim report deals with legislation to strengthen the *Health Protection and Promotion Act* and to enact emergency powers for public health disasters like SARS or flu pandemics. It is produced now to respond to current government plans for further amendments to *Health*

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[18] SARS Commission, first interim report, p. 1.

> *Protection and Promotion Act* and radical changes to the *Emergency Management Act*.[19]

The Commission made recommendations regarding Chief Medical Officer of Health independence and leadership, local public health governance, public health legal preparedness and emergency legislation, public health resources, and overhauling the *Health Protection and Promotion Act*, including strengthening health protection powers and clarifying infectious disease reporting requirements.

This third and final report makes recommendations arising from the story of how SARS devastated Ontario and was not contained until 375 people contracted the disease and 44 died. Not surprisingly in an outbreak where nurses, doctors and other health workers constituted the largest single group of SARS cases, many of the recommendations address worker safety issues. As the Commission noted in its second interim report:

> Suggestions have been received for legislation to strengthen occupational health and safety protection for health workers. That issue will be dealt with in the final report. Occupational health and safety is a vital aspect of the Commission's work.[20]

The Commission benefited greatly from written and oral submissions delivered during the course of the public hearings and in response to several calls for submissions from the beginning to the end of the investigation. Many submissions and presentations from the public hearings are on the Commission's website.

The submissions from government, hospitals, unions and many sectors of the health community noted significant improvements since SARS and significant areas where more needs to be done. These submissions constitute just under a banker's box of material. This material, together with all public records of the Commission's work, have been transmitted to the Archives of Ontario[21] and will be available to the public according to archival policy.

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19. SARS Commission, second interim report, p. 1.
20. SARS Commission, second interim report, p. 1.
21. The Commission has transmitted to the Archives of Ontario all non-confidential material. The Commission's report is by its terms of reference subject to Ontario's privacy and freedom of information legislation, in the sense that the report itself is publicly available and must respect the confidentiality of personal health information. Because the Commission is independent from government, its confidential work product is not subject to those statutes. Much of the

Precautionary Principle

In *The Commission of Inquiry on the Blood System in Canada*, Mr. Justice Krever said:

> Where there is reasonable evidence of an impending threat to public health, it is inappropriate to require proof of causation beyond a reasonable doubt before taking steps to avert the threat.[22]

The importance of the precautionary principle that reasonable efforts to reduce risk need not await scientific proof was demonstrated over and over during SARS. The need to apply it better is noted throughout this report.

One example was the debate during SARS over whether SARS was transmitted by large droplets or through airborne particles. The point is not who was right and who was wrong in this debate. When it comes to worker safety in hospitals, we should not be driven by the scientific dogma of yesterday or even the scientific dogma of today. We should be driven by the precautionary principle that reasonable steps to reduce risk should not await scientific certainty.

A precautionary approach also was in use at Vancouver General Hospital when it received B.C.'s first SARS case on March 7, 2003, the same day Ontario's index case presented at Scarborough Grace Hospital. When dealing with an undiagnosed respiratory illness, health workers at Vancouver General automatically go to the highest level of precautions, and then scale down as the situation is clarified. While the circumstances at Vancouver General and the Grace were different, it is not surprising that SARS was so effectively contained at an institution so steeped in the precautionary principle.

In Ontario there was a systemic failure to recognize the precautionary principle in health worker safety, and in the identification and diagnosis of a respiratory illness that mimicked the symptoms of other, better-known diseases. Amid this systemic absence of the precautionary principle, it is not surprising that in Ontario, unlike in Vancouver, SARS caused such devastation, infecting 375 people, including 169 health workers, and killing 44, including two nurses and a physician.

Commission's work product consists of confidential informant interviews, notes and documents produced or obtained under a promise of confidentiality that attracts in law.

[22] The Krever Report, p. 295; see also pp. 989-994.

The Commission therefore recommends:

- That the precautionary principle, which states that action to reduce risk need not await scientific certainty, be expressly adopted as a guiding principle throughout Ontario's health, public health and worker safety systems by way of policy statement, by explicit reference in all relevant operational standards and directions, and by way of inclusion, through preamble, statement of principle, or otherwise, in the *Occupational Health and Safety Act*, the *Health Protection and Promotion Act*, and all relevant health statutes and regulations.

- That in any future infectious disease crisis, the precautionary principle guide the development, implementation and monitoring of procedures, guidelines, processes and systems for the early detection and treatment of possible cases.

- That in any future infectious disease crisis, the precautionary principle guide the development, implementation and monitoring of worker safety procedures, guidelines, processes and systems.

Public Health System

SARS showed that Ontario's public health system is broken and needs to be fixed. Since then, while much progress has been made, after long periods of neglect, inadequate resources and poor leadership, much more remains to be done. Every recommendation to the Commission in respect of public health noted the need for more resources.[23]

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[23] One of the best examples is the July 19, 2006, submission by Dr. David McKeown, the Toronto Medical Officer of Health, who noted in particular these six problems:

1. The role and authority of Public Health with respect to non-reportable diseases must be strengthened.

2. The reporting capability of iPHIS [the integrated Public Health Information System] must be improved. In addition, the Ministry of Health and Long-Term Care (MOHLTC) must move forward more rapidly to enable electronic reporting of cases from laboratories, hospitals and physicians to local Public Health.

3. The MOHLTC and the College of Physicians and Surgeons of Ontario must develop mech-

As the Commission's second interim report said:

> As the province moves into the latter stages of Operation Health Protection, stages when significant funding will be required, the challenge will be to provide the necessary resources to sustain the momentum for change despite the government's other budgetary pressures.
>
> The point has to be made again and again that resources are essential to give effect to public health reform. Without additional resources, new leadership and new powers will do no good. To give the Chief Medical Officer of Health a new mandate without new resources is to make her powerless to effect the promised changes. As one thoughtful observer told the Commission:
>
>> The worst-case scenario is basically to get the obligation to do this and not get the resources to do it. Then the Chief Medical Officer of Health would have a legal duty that [he or she] can't exercise.
>
> To arm the public health system with more powers and duties without the necessary resources is to mislead the public and to leave Ontario vulnerable to outbreaks like SARS.[24]

SARS also disclosed many problems with the *Health Protection and Promotion Act* that

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anisms to enable all licensed physicians in the province to receive urgent health alerts electronically.

4. The MOHLTC must clarify the role and authority of Public Health with respect to infection control in hospitals and other institutions.

5. Overall public health capacity must be strengthened. This requires an enhanced budget, not just a change in the cost-sharing formula. In addition the human resources issues are serious and growing, in particular with respect to Community Medicine physician specialists who are critical in an infectious disease emergency.

6. The full independence of the Chief Medical Officer of Health role is required. The current position combines this independent role, which may lead to conflict between government interests and health needs of the public.

[24] SARS Commission, second interim report, p. 303.

were the subject of extensive recommendations in the second interim report.[25] These included problems arising from the necessary use of a blunt instrument like the Code Orange status, and confusion about infectious disease reporting obligations.

The Commission therefore recommends:

- That the Government complete the process of fixing the public health system, including:
  - — Conducting the major overhaul of the *Health Protection and Promotion Act* recommended in the Commission's second interim report to remove dangerous uncertainties like the confusion about infectious disease reporting obligations that occurred during SARS, and to provide authorities with the ability to provide a more tightly focused response than was possible under the blunt instrument of the Code Orange status;
  - — Completing the review of the Mandatory Health Programs and Services Guidelines, and moving from a system of guidelines to a more accountable one based on performance-linked program standards;
  - — Establishing the Ontario Health Protection and Promotion Agency;
  - — Revitalizing the Central Public Health Laboratory; and
  - — Providing sufficient and sustained funding for public health.

Ontario Agency for Health Protection and Promotion, and the CMOH

Although there is much wisdom in the proposal for an Ontario Agency for Health Protection and Promotion, the recommended structure[26] fails to take into account the major SARS problem of divided authority and accountability.

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[25] SARS Commission, second interim report, pp. 404-416.

[26] See Final Report of the Agency Implementation Task Force, *From Vision to Action: A Plan for the Ontario Agency for Health Protection and Promotion*, March 2006; Report of the Agency Implementation Task Force, *Building an Innovative Foundation: A Plan for the Ontario Agency for Health Protection and Promotion*, October 2005.

As the Commission noted in its second interim report:

> … the SARS response was also hamstrung by an unwieldy emergency leadership structure with no one clearly in charge. A *de facto* arrangement whereby the Chief Medical Officer of Health of the day shared authority with the Commissioner of Public Safety and Security resulted in a lack of clarity as to their respective roles which contributed to hindering the SARS response.[27]

An important lesson from SARS is that the last thing Ontario needs, in planning for the next outbreak and to deal with it when it happens, is another major independent player on the block.

The first report of the Agency Implementation Task Force said:

> A body at arm's-length from the government was recommended in the Walker, Campbell and Naylor reports, was a commitment in *Operation Health Protection* and aligns with the successful experience of the INSPQ [L'Institut national de santé publique du Québec].[28]

The Commission in fact recommended a much different arrangement in its first interim report, and warned against creating another "silo," another autonomous body, when SARS demonstrated the dangers of such uncoordinated entities:

> First, the structure of the new agency or centre, which will combine advisory and operational functions, must reflect the appropriate balance between independence and accountability whether it is established as a Crown corporation or some other form of agency insulated from direct Ministerial control.
>
> Second, it should be an adjunct to the work of the Chief Medical Officer of Health and the local Medical Officers of Health, not a competing body. SARS showed that there are already enough autonomous players on the block who can get in each other's way if not properly coordinated. There is always a danger in introducing a semi-autonomous body into a

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27. SARS Commission, second interim report, p. 323.

28. Report of the Agency Implementation Task Force, *Building an Innovative Foundation: A Plan for the Ontario Agency for Health Protection and Promotion*, October 2005, p. 16.

> system like public health that is accountable to the public through the government. The risk is that such a body can take on a life of its own and an ivory tower agenda of its own that does not necessarily serve the public interest it was designed to support.[29]

Consequently, the Commission recommended that the Chief Medical Officer of Health have a hands-on role at the agency, including a seat on the board.[30]

The Agency Implementation Task Force took a completely opposite approach, recommending against giving the Chief Medical Officer of Health a seat as a voting member of the board, and recommending a very autonomous role for the agency.

This proposed arrangement ignores important lessons from SARS.

The Commission, far from recommending a completely arm's-length organization, pointed out the need for the Chief Medical Officer of Health to be in charge with the assistance of the agency, which should, albeit with a measure of policy independence, be operationally accountable to the Chief Medical Officer of Health.

The Commission therefore recommends:

- That the government reconsider in light of the lessons of SARS the Agency Implementation Task Force's recommendation regarding the relationship between the Chief Medical Officer of Health and the agency.

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[29] SARS Commission, first interim report, p. 19.

[30] The first interim report said:

> To ensure that the new Ontario agency complements the service mandate of the public health system, the relationship must be clear between the new Ontario agency and the Chief Medical Officer of Health. Unless he or she has a clear say in the ongoing work and overall direction of the agency, and the ability to mobilize the resources of the agency to meet a public health problem when required, the agency will not fulfill its role as a source of support to public health operations. The Chief Medical Officer of Health must have more than a token role in the direction of any such agency. If the new agency is to have a Board of Directors, the Chief Medical Officer of Health, if not its Chair, should be at least its Associate Chair. To the extent the agency is operational as opposed to purely advisory, the Chief Medical Officer of Health must, in the face of a public health problem, be able to direct the operational resources of the agency so as best to meet the problem at hand, whether the resources are epidemiological, laboratory, or other.

SARS Commission, first interim report, p. 188.

Emergency Plans for Orderly Hospital Closure

Before SARS no one was prepared for the possibility that a hospital might need to be closed to contain an infectious disease outbreak. Yet this is what happened on three occasions during SARS, at the Scarborough Grace Hospital, York Central Hospital and North York General Hospital. No one in Ontario had had to do this before. SARS demonstrated the immense difficulty of closing a hospital in the middle of an outbreak, when no one had done it before, when no one had planned for this possibility, and when no exercises and education had been conducted to train staff on how to do it. It is to the credit of all those involved in closing Scarborough Grace, York Central and North York General that they accomplished the task despite having never had the experience of and knowledge from doing so before.

The Commission therefore recommends:

- The development of emergency plans for orderly hospital closure to avoid problems of the kind that arose at the Grace, York Central and North York General, to cover all eventualities and in particular:

  — Effective means for immediately notifying staff at the institution of any potential risk.

  — Effective means for immediately notifying staff not on duty at the institution of any potential risk.

  — Systems for rapidly securing the names and tracing information of everyone at the hospital at the time including visitors to patients.

  — Amendment of the *Health Protection and Promotion Act* to ensure duty to identify for purpose of public health tracing.[31]

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[31] The second interim report said:

> A submission to the Commission from a group of experts, who were all closely involved in the SARS response, recommended that the reporting sections of the *Health Protection and Promotion Act* be amended to support the work of health units in tracing the contacts of patients with infectious diseases:
>
> > The current HPPA does not give specific reference to contacts of infectious cases. Release of information on the cases as well as contacts is essential for infectious disease control. This was a major obstacle during the management of the SARS outbreak. We believe that

— Prearranged, rehearsed protocols for police assistance.

— Immediate medical backup for those dependent on the hospital, such as obstetrics, dialysis and oncology.

— Effective means for immediately informing the public, families of patients and the wider hospital community.

- That hospital emergency closing plans be rehearsed and reviewed on a periodic basis to reflect lessons learned in training exercises and emergency management best practices.

Effective Distribution of Outbreak Alerts

When Mr. T presented to the Grace on March 7, 2003, health workers did not know to be on the lookout for unusual respiratory illnesses. Unlike their counterparts in B.C., they had not been alerted to the emergence of a mysterious new disease in China and Hong Kong. Three year's after SARS, public health officials told the Commission there is still no means to communicate quickly and effectively with Ontario's physicians. SARS demonstrated that alerts and other communications need to quickly reach all workplace parties, including employers, health workers, unions and Joint Health and Safety Committees.

The Commission therefore recommends:

- That the Ministry of Health develop and implement an effective means to alert all workplace parties, including health workers,

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the requirement to report contacts referred to specifically in the legislation will allow practitioners to provide this information to their medical officer of health.

The amendments to Regulation 569, effected in Regulation 01/05, address this issue.

Contacts initially identified or later traced are included in most of the lists specifying additional information that must be reported to the medical officer of health. In particular, it is included in the case of SARS, TB, influenza and febrile respiratory illness. This means that those who have reporting obligations under the Act are now required to provide contact information.

Source: SARS Commission, second interim report, p. 199.

employers, unions and Joint Health and Safety Committees, in a timely manner about infectious disease threats.

- That in preparation for the possibility of a public health crisis like SARS or a pandemic, health institutions develop and implement effective means to communicate to their workers information regarding the outbreak, the health risk, the containment strategy, and measures to protect workers, patients and visitors.

Directives

Directives on N95 respirators and other worker safety issues were prepared without appropriate oversight by the Ministry of Labour, adequate input from worker safety experts, and sufficient participation by workplace parties including unions, employers and Joint Health and Safety Committees. The inadequacies of directives do not reflect on those who prepared them, and who deserve praise for their remarkable effort under difficult circumstances with insufficient resources, infrastructure or planning. Regardless of the reasons for the directives' failings, the reality is that for most of the outbreak they failed to provide the detailed advice that health workers, their supervisors and their employers needed. Workplace parties also reported their continuing difficulties in providing feedback to the Provincial Operations Centre on issues that arose when implementing directives.

The Commission therefore recommends:

- That in any future infectious disease crisis, the preparation of directives involving worker safety be supervised, reviewed and approved by the Ministry of Labour in a process that is transparent and easily understood by all workplace parties.

- That in any future infectious disease crisis, directives involving worker safety be jointly prepared by infection control and worker safety experts to reflect their overlapping responsibilities and thereby ensure that patients, workers and visitors are kept safe.

- That in any future infectious disease crisis, directives involving worker safety be prepared with input from the workplace parties who have to implement them, including employers, health worker representatives and Joint Health and Safety Committees.

- That in any future infectious disease crisis, directives and other communications involving worker safety reference the specific applicable sections of the *Occupational Health and Safety Act*, and its regulations, so that employers and workers are fully informed of worker safety legal requirements.

- That the Ministry of Labour and the Ministry of Health cooperate in developing and implementing an effective communication system for receiving timely feedback from workplace parties, including employers, unions and Joint Health and Safety Committees, regarding any problems encountered when implementing worker safety directives, policies, procedures and systems.

- That when issuing any communication affecting worker safety, the Ministry of Health consult with the Ministry of Labour, and ensure that there are clear, specific references to relevant worker safety laws, regulations, guidelines and best practices, and that employers are fully informed of their legal obligations to protect workers.

Effective Crisis Communication

There were many systemic problems with crisis communications during SARS. Workplace parties, including unions and the Ministry of Labour, told the Commission of their difficulties in receiving directives in a timely manner and in gaining access to Ministry of Health websites. Employers and workers' representatives often had great difficulty in receiving timely responses to questions to the Provincial Operations Centre, Ministry of Health and the Ministry of Labour, on important issues, including work refusals, safety of pregnant workers, and safety of immunocompromised workers. Workers' representatives also said they were not aware of such internal Ministry of Labour documents as the 1984 agreement with the Ministry of Health and the protocol dated April 2, 2003. In some cases, media reports were more informative on SARS than communications by health institutions to their workers.

The Commission therefore recommends:

- That the Ministry of Labour and the Ministry of Health cooperate in developing and implementing an effective communication system to ensure that in the event of an infectious disease outbreak all workplace parties, including front-line health workers, employers, unions and Joint Health and Safety Committees, receive relevant communications, including directives, in a timely manner.

- That in the event of any future infectious disease crisis, the Ministry of Labour provide in a timely manner clear direction and information regarding guidelines for work refusals, pregnant workers and immunocompromised workers.

- That in the event of an infectious disease outbreak, any protocol regarding the Ministry of Labour's response, such as the Ministry's April 2, 2003, protocol, be communicated in a timely manner to employers, unions, Joint Health and Safety Committees and other workplace parties.

Risk Communication

The story of the psychiatric patients and the clusters of family illness in May at North York General demonstrates the importance of clear communication and a clear understanding of the respective roles and responsibilities in an outbreak investigation. Front-line nurses and physicians believed these patients had SARS. Public Health believed these patients, while not classified as having SARS, were being treated as persons under investigation and were being investigated and monitored. The hospital, in good faith, sincerely believed that SARS had been ruled out. In good faith, it also repeated this message to staff and tried to convince staff they were safe. This led to an important disconnect at North York General between what front-line nurses and physicians saw and what the hospital told its employees. The Commission accepts that everyone involved was doing what they thought was right. The problem was that staff in good faith were given assurances with a confidence that was not warranted in the circumstances.

The Commission therefore recommends:

- That the Ministry of Health ensure that the respective roles and responsibilities of public health and hospitals during an infectious disease outbreak are clarified and clearly understood by all parties.

- That public health and hospitals jointly develop processes to ensure that public health advice to hospitals regarding patient diagnosis in a disease outbreak, especially with an infectious disease like SARS that is difficult to identify, clearly reflect all the attendant health risks.

- That risk communication to staff reflect a precautionary approach, that it is better to err on the side of caution, especially when dealing with a little-understood new disease like SARS.

Listening to Front-Line Health Workers

During SARS, front-line doctors, nurses and other health workers had the greatest clinical experience in diagnosing and treating SARS patients. Yet there was no process in place to ensure that their voices and experience were heard.

At North York General, for example, before the events of May 23, 2003, some nurses, doctors and other health workers worried that, despite what they were being told, SARS had not gone away. The hospital felt, based on consultations with outside experts, including Public Health, that the psychiatry patients and the family cluster of illness in May were not SARS. Hospital officials believed in good faith that staff concerns were unfounded and that they needed to convince staff that it was safe. What angered health workers was that their concerns, which turned out to be well founded, were dismissed, and the well-intentioned messages of the hospital were disconnected from front-line staff concerns.

The Commission therefore recommends:

- That effective processes and systems be established to provide a path for communication and consultation with front-line staff.

- That the health concerns of health workers be taken seriously, and that in the spirit of the precautionary principle health workers be made to feel safe, even if this means continuing with levels of heightened precautions that experts believe are no longer necessary.

Listening to Unions

Just as hospitals should listen more carefully to the concerns of nurses and other front-line health workers, the Ministry of Health would be well advised to listen more carefully to the reasonable concerns of health worker unions which have enormous front-line experience in the actual problems of worker safety on the ground. Their expertise is reflected in the thoughtful and detailed presentations by unions that represent Ontario's health workers, and in particular the joint work of the Ontario

Nurses' Association and the Ontario Public Service Employees Union. The problems of worker safety have been explicitly recognized by Minister of Health George Smitherman speaking to an audience of nurses in May 2005:

> One of the things I was struck by … [was] the number of nurses that work in environments, hospital environments perhaps more particularly, that actually are unsafe … We have a lot of work to do on that.

It is important for Ministry officials to take this ministerial direction seriously. It is important for Ministry officials to avoid any impression that the Ministry has adopted an adversarial or dismissive attitude towards those who voice the legitimate concerns of those at risk on the front lines.[32]

Surveillance

One of the most important systemic failures of SARS was the failure to quickly identify clusters of illness among staff and to convey that information to infection control practitioners at affected hospitals and to those leading the fight against SARS. These systemic failures prevented the timely identification of SARS cases at the Grace and at North York General, the sites of the two largest nosocomial outbreaks.

Before May 23, 2003, when it appeared that SARS had been contained, there was no system-wide surveillance in place to ensure that undetected cases were caught. Responsibility for surveillance for undetected cases of SARS was left to individual institutions and to front-line practitioners. Any system that might have identified clusters of illness or death could have been helpful. However, surveillance standards at individual hospitals in Ontario were insufficient and not mandated. Witnesses told the Commission that such surveillance is possible only with a sufficiently resourced infection control function.

The Commission therefore recommends:

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[32] One example of this impression arose after a Ministry of Health official, responding to union concerns that safety issues had been ignored in pandemic planning, did not address the issue on the merits but dismissed the well-expressed union concerns by saying, "I am not sure we will ever meet the expectations of organized labour regarding health and safety…" This comment led the union to believe "that key bureaucrats in MOHLTC view occupational health and safety as a partisan issue, with occupational health and safety proponents as their adversaries."

- That appropriate surveillance standards be established, mandated and funded in Ontario hospitals.

- That special care be paid to identifying clusters of illness among staff and to initiating immediate investigation.

- That where suspicious clusters of illness are identified, this be communicated to health workers, especially to those who might have been in contact with sick staff, or have worked in the same areas of the hospital.

- When an outbreak appears to be waning of a difficult-to-diagnose infectious disease like SARS, system-wide surveillance be implemented to ensure that undetected cases are identified.

- Infection control functions in Ontario hospitals and in public health be sufficiently resourced so that they could contribute to, and participate in, system-wide surveillance when an outbreak appears to be waning of a difficult-to-diagnose infectious disease like SARS.

Infection Control

Many witnesses have told the Commission that, since SARS, infection control standards and practices have improved at hospitals affected by SARS. It will be important to ensure that improvements occur across the health system. Witnesses voiced a concern that as memories of the SARS outbreak fade, so will attention to infection control. Part of that concern is over the lack of consistent system-wide policies on visitor access at hospitals. They also told the Commission that many Ontario hospitals are in older buildings whose structure does not lend itself to modern infection control practices.

The Commission therefore recommends:

- That the Ministry of Health ensure that all Ontario hospitals have infection control personnel, resources and program components, including surveillance, control and education, consistent with Canadian recommendations and best practices.[33]

- That consistent and clear visitor policies be developed across the health system to ensure that visitor access, while important in caring for the ill, does not overcome infection control standards.

- That the Ministry of Health and every health institution develop consistent, safe and humane policies to lessen the impact of infectious outbreaks on the vital priority for the sick to receive visitors, unless medically dangerous.

- That visitors be educated to their important role in keeping hospitals safe, and to the need to respect limits on the number of visitors, particularly where the illness is not serious or life-threatening.

- That the Ministry of Health help hospitals to incorporate leading practices in infection control standards into facility design and renovation.

Safety Culture in Health Workplaces

The heavy burden of disease that fell on nurses, doctors and other health workers demonstrated the lack of a safety culture[34] in the Ontario health system. A single event like the spread of SARS at the Grace was warning enough that a safety culture was lacking. The fact that health workers continued to get sick in April and May after the events at the Grace demonstrated the extent to which a safety culture was lacking. Nothing better demonstrates the absence of a safety culture than the inability to fix worker safety problems in a timely manner once they have been identified by a tragedy like the Grace.

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[33] "It's critical that all hospitals have specific human resources, in the form of ICPs (Infection Control Professionals) and support staff, for an effective infection prevention program," says Dr. [Richard] Zoutman. Such programmes must include surveillance (counting infections), control (interventions to prevent them from occurring), and education components.

Source: Queen's News Centre, "Canadian hospitals below standards for preventing infection," Tuesday, August 05, 2003, http://qnc.queensu.ca/story_loader.php?id=3f2fb55a816fc.

[34] A definition of safety culture suggested by the Health and Safety Commission in the U.K. is as follows:

> The safety culture of an organisation is the product of the individual and group values, attitudes, competencies and patterns of behaviour that determine the commitment to, and the style and proficiency of, an organisation's health and safety programmes. Organisations with a positive safety culture are characterised by communications founded on mutual trust, by shared-perceptions of the importance of safety, and by confidence in the efficacy of preventative measures.

The Vancouver experience demonstrated the value of a safety culture in health workplaces. Expressions of this safety culture included the close cooperation and mutual respect between infection control and worker safety, the emphasis on listening to health workers, and the deployment of joint teams of infection control and worker safety experts to Royal Columbian Hospital after a nurse contracted SARS.

In Ontario, infection control and worker safety disciplines generally operated as separate silos during SARS. Until this divide is bridged and infection control and worker safety disciplines begin to actively and effectively cooperate, it will be difficult to establish a strong safety culture in Ontario.

As a landmark study on worker safety in health care said:

> … if the safety climate within healthcare was better and workers had more confidence in their employers' commitment to worker health and

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A positive safety culture implies that the whole is more than the sum of the parts. The different aspects interact together to give added effect in a collective commitment. In a negative safety culture the opposite is the case, with the commitment of some individuals strangled by the cynicism of others. From various studies it is clear that certain factors appear to characterise organisations with a positive safety culture.

These factors include:

- The importance of leadership and the commitment of the chief executive
- The executive safety role of line management
- The involvement of all employees
- Effective communications and commonly understood and agreed goals
- Good organisational learning and responsiveness to change
- Manifest attention to workplace safety and health
- A questioning attitude and a rigorous and prudent approach by all individuals

Source: The Institution of Engineering and Technology, "IEE – Health and Safety Briefing 07 – Safety Culture," http://www.iee.org/Policy/Areas/Health/hsb07.cfm.

> safety, employees would have more confidence in the messages and directives they received during a crisis situation such as SARS. The relatively low profile of occupational health and safety within healthcare is perhaps best reflected in the observation that very few focus groups, aside from those containing health and safety professionals, seemed to be aware of occupational health and safety professionals at all. Tasks such as fit-testing of respirators often fell to infection control practitioners, not to occupational health and safety professionals (although this appears to vary from facility to facility) as it would have in other industries.[35]

The study identified the following organizational factors that promote a safety culture:

- There is general agreement that the safety-related attitudes and actions of management play an important role in creating a good or bad safety climate.
- Studies of safety program effectiveness in non-healthcare settings have repeatedly shown that a positive or supportive safety climate is an important contributing factor to good safety performance. Specifically, it is known that as safe behaviours are adopted throughout an organization, increasing pressure is put on non-compliers to "come in line."
- It has been shown that the safety climate has an important influence on the transfer of training knowledge.[36]

While important research has been conducted on infection control standards,[37] worker safety experts have noted that similar research has not been undertaken in occupational health and safety.[38]

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[35] Dr. Annalee Yassi and Dr. Elizabeth Bryce, "Protecting the faces of healthcare workers: knowledge gaps and research priorities for effective protection against occupationally-acquired respiratory infectious diseases" (Occupational Health and Safety Agency for Healthcare in B.C., April 30, 2004), p. 67.

[36] Dr. Annalee Yassi and Dr. Elizabeth Bryce, "Protecting the faces of healthcare workers: knowledge gaps and research priorities for effective protection against occupationally-acquired respiratory infectious diseases" (Occupational Health and Safety Agency for Healthcare in B.C., April 30, 2004), pp. 32-3.

[37] See Zoutman et al., "The state of infection surveillance and control."

The Commission therefore recommends:

- That the Ministry of Labour use its enforcement and standard-setting activities, and the Ministry of Health its funding and oversight activities, to promote organizational factors that give rise to a safety culture in health workplaces.

- That the Ministry of Labour and the Ministry of Health jointly promote a safety culture in health workplaces that emphasizes close cooperation and collaboration between infection control and worker safety experts, and reflects the principles and practices of their respective disciplines.

- That in preparation for the possibility of a future infectious disease outbreak, the Ministry of Labour and the Ministry of Health jointly establish teams of trained and equipped infection control experts, occupational physicians, occupational hygienists and Labour inspectors who could be rapidly deployed to sites of workplace outbreaks.

- That occupational health and safety standards, including optimal staffing levels for worker safety practitioners, be established, similar to the SENIC standards for infection control.[39]

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[38] "Certainly more research on what levels or standards are needed to promote effectiveness in occupational health, similar to the SENIC studies for infection control, is needed." Source: Dr. Annalee Yassi and Dr. Elizabeth Bryce, "Protecting the faces of healthcare workers: knowledge gaps and research priorities for effective protection against occupationally-acquired respiratory infectious diseases" (Occupational Health and Safety Agency for Healthcare in B.C., April 30, 2004), p. 67.

[39] The most important determinants of successful general nosocomial infection control programs in hospitals have been understood since the mid-1980s when the Study on the Efficacy of Nosocomial Infection Control (SENIC) was published. The following organizational factors were found to be important in determining effective infection control and lower rates of nosocomial-transmitted disease: having one infection control practitioner per 250 acute care beds, having at least one full-time physician interested in infection control, having an intensive surveillance program for nosocomial diseases and having intensive control policies and procedures. However, in a recent survey of 172 hospitals in Canada, only about 60 per cent of hospitals had evidence of compliance for each of the SENIC factors. The number of institutions who had all four factors was likely much less.

- That once occupational health and safety standards are established, the Ministry of Health provide consistent and sustained funding and strategic planning to ensure that these requirements are achieved, and the Ministry of Labour ensure they are maintained through its enforcement and monitoring functions.

- That the best practices of worker safety disciplines and infection control be reflected in hospital accreditation standards.

- That additional resources be dedicated by the Ministry of Health for the training and certification of worker safety experts, including occupational physicians and occupational hygienists.

- That worker safety programs at health care institutions include training for workers, management, officers and directors on their roles and responsibilities with regard to worker safety laws and regulations.

- That the Ministry of Training, Colleges and Universities, in collaboration with the Ministry of Health, the Ministry of Labour and Ontario institutions that train health care professionals, establish baseline standards on occupational health and safety and infection prevention and control measures and procedures, to be incorporated into the curricula of medical and nursing schools and schools for the allied health professions in Ontario colleges and universities.

Regional Infection Control Networks

The Ministry of Health has helped to improve infection control standards in health care by establishing Regional Infection Control Networks. To promote a safety culture in health care, it will be important that these networks foster close cooperation and collaboration between infection control and worker safety.

The Commission therefore recommends:

Source: Dr. Annalee Yassi and Dr. Elizabeth Bryce, "Protecting the faces of healthcare workers: knowledge gaps and research priorities for effective protection against occupationally-acquired respiratory infectious diseases" (Occupational Health and Safety Agency for Healthcare in B.C., April 30, 2004), p. 67.

- That Regional Infection Control Networks have, as integral members, experts in occupational medicine and occupational hygiene, and representatives of the Ministry of Labour.

- That members of Regional Infection Control Networks be fully educated in the requirements of the *Occupational Health and Safety Act*, and its regulations.

- That regional Infection Control Networks, in dealing with worker safety issues, consult on an ongoing basis with the Ministry of Labour, workplace parties and worker safety experts.

Role of the Ministry of Labour

Despite its legal mandate to protect workers, the Ministry of Labour was largely sidelined during SARS. It was not given a role in the SARS response commensurate with its statutory duties. It was also not consulted before West Park Healthcare Centre's old tuberculosis unit was opened to accept sick health workers from the Grace, even though its perspective would have been very germane to the decision. The outbreak at the Seven Oaks Home for the Aged demonstrated that issues still remain unresolved about the role of the Ministry of Labour during an infectious disease outbreak.

The Commission therefore recommends:

- That the Ministry of Labour have the lead responsibility for setting and enforcing work safety policies, procedures and standards in the health care sector, as it does in all workplaces.

- That the Ministry of Health, as the Ministry that funds and oversees the health care delivery system, not be placed in the position of acting as an independent worker safety watchdog over its own system.

- That the Ministry of Health have the lead responsibility for developing and implementing infection control measures in the health care sector to protect patients, residents and/or clients.

- That the Ministry of Labour and Ministry of Health develop protocols, processes and procedures to ensure effective and active cooperation and coordination where their respective worker safety and infection control responsibilities overlap.

- That in any future infectious disease crisis, the Ministry of Labour have a clearly defined decision-making role on worker safety issues in a future Provincial Operations Centre, and that this role be clearly communicated to all workplace parties.

- That the role and authority of the Ministry of Labour be clearly defined during a declared emergency. Under the *Emergency Management and Civil Protection Act*, the *Occupational Health and Safety Act* prevails, and, as such, the Ministry of Labour's mandate to communicate and enforce occupational health and safety standards for workplaces under provincial jurisdiction will remain during an emergency. How the designated lead ministry in any emergency will interact with the Ministry of Labour, so that the Ministry of Labour can continue to fulfill its mandate, should be established prior to an emergency.

- That in any future infectious disease crisis, the Ministry of Labour be consulted when health facilities that had previously been decommissioned, such as West Park's old tuberculosis unit, are reopened in response to exigent circumstances.

- That the Ministry of Health and the Ministry of Labour work together to establish an agreement and mechanism, including information technology systems, to share information related to outbreaks of infectious diseases. Such information sharing should include information about Ontario's health care facilities. The objective is to ensure compliance with the reporting of occupational illnesses to the Ministry of Labour under the *Occupational Health and Safety Act*, and to ensure that the Ministry of Labour has at its disposal all relevant information to appropriately address outbreaks of infectious diseases in health care and other workplaces.

- That the Ministry of Health and the Ministry of Labour work together to establish integrated enforcement strategies to improve compliance with occupational health and safety legislation and with legislation administered by the Ministry of Health.

- That the Ministry of Health establish a process, similar to the one available under the *Occupational Health and Safety Act*, to hold directors and officers of health care organizations accountable for compliance with provincial legislation. This may be accomplished by performance specifications in contracts or service agreements that the Local Health Integration Networks will establish with health care organizations.

The Ministry of Labour and the 1984 Agreement

During SARS, the Ministry of Labour deferred its worker safety responsibilities to the health sector, believing the health sector had the expertise and capabilities to protect workers in a manner that was consistent with provincial laws and regulations. It did this, in part, because of a 1984 Memorandum of Understanding with the Ministry of Health that was unauthorized by statute, unclear, not disseminated to interested parties like the unions, and of questionable legal authority to the extent that it might require ministry personnel to fetter their discretion and so fail to fulfill their duties in workplaces affected by infectious diseases.

The Commission therefore recommends:

- That the 1984 agreement between the Ministry of Health and the Ministry of Labour be replaced by an agreement that ensures that the Ministry of Labour, in consultation and cooperation with the Ministry of Health, take the lead in investigating infectious disease outbreaks that affect workers in a workplace.

- That the existence of any agreement setting out the respective roles and responsibilities of the Ministry of Labour and the Ministry of Health in a public health emergency be fully communicated to unions, employers, Joint Health and Safety Committees and other workplace parties.

Ministry of Labour Investigations and Prosecutions

When the Ministry of Labour decided not to lay any charges in connection with the deaths of Tecla Lin, Nelia Laroza and Dr. Nestor Yanga it did not disclose the reasons for doing so.

After SARS, critical injury and occupational illness investigations were begun very late in the one-year window for instituting prosecutions, and investigators had a very limited period to complete their work.

The Commission therefore recommends:

- Legislative amendments and policies in relation to the waiver of potential Crown privilege claims, such that in such cases where charges do not result from Ministry of Labour and other investigations of deaths and critical injuries in health workplaces, the results of the investigation and the reasons for the decision not to prosecute be made public.

- That Ministry of Labour investigations into critical injuries and occupational illnesses arising from a disaster of the magnitude of SARS be commenced and completed expeditiously.

- That a review be undertaken of section 69 of the *Occupational Health and Safety Act*, as to whether the limit on the institution of a prosecution to no more than one year after the last act or default occurred be amended.

Ministry of Labour Proactive Inspections

For reasons set out in this report, the Ministry of Labour did not conduct any proactive inspections of SARS hospitals during virtually all the outbreak. Labour's approach was vastly different from what occurred in British Columbia, where the workplace regulator began proactive inspections in early April 2003 and paid special regulatory attention to a hospital where a nurse contracted SARS. This was a missed opportunity in Ontario, although we will never know what impact that might have had on the SARS response.

The Commission therefore recommends:

- That in any future infectious disease outbreak, the Ministry of Labour take a proactive approach throughout the outbreak to ensure that health workers are protected in a manner that is consistent with worker safety laws, regulations, guidelines and best practices.

- That in any future infectious disease outbreak, the Ministry of Labour's proactive approach be clearly communicated to all workplace parties, including the Ministry of Health, public health units, employers, workers' representatives and Joint Health and Safety Committees.

- That in preparation for the possibility of a future infectious disease outbreak, the Ministry of Labour prepare effective operational plans for playing a proactive role, including establishing and training teams of occupational physicians, hygienists and inspectors to spearhead any proactive effort.

Investigations Led by the Ministry of Health

During SARS, a team from the U.S. Centers for Disease Control (CDC) was invited by the province to investigate the incident at Sunnybrook on April 13, 2003, when nine health workers were infected. Because of systemic failings, no one thought to invite the Ministry of Labour to participate, or to advise it that such an investigation was taking place. Similarly, after the Seven Oaks outbreak of legionellosis in the fall of 2005, the Ministry of Labour was not invited to participate in a Ministry of Health investigation into the response to the outbreak. In addition, the Seven Oaks investigation also would have benefited from the inclusion of worker safety experts.

The Commission therefore recommends:

- That the Ministry of Labour play an integral role in any future Ministry of Health investigation into an infectious outbreak where workers were infected, such as occurred at Sunnybrook and Seven Oaks.

- That the Ministry of Labour be given the responsibility for ensuring that any worker safety–related findings in any future Ministry of Health investigation be consistent with worker safety laws and principles.

- That any investigation into an infectious outbreak where workers were infected, such as the investigations at Sunnybrook and Seven Oaks, include experts in occupational hygiene and other worker safety disciplines.

Ministry of Labour Physician Resources

Prior to SARS, the Ministry of Labour's complement of inspectors and physicians had been sharply reduced. SARS also revealed that many Ministry of Labour inspectors lacked sufficient health care–related training. Since SARS, the Ministry of Labour has hired additional inspectors, including some dedicated to the health care sector, and increased its health care–related staff training. But it has not increased its occupational physician cadre, which had once had province-wide coverage but is now concentrated in Toronto.

The Commission therefore recommends:

- That the Ministry of Labour expand its internal resources of occupational physicians and ensure that their capabilities are available province-wide.

Worker Safety Laws and Regulations

The evidence reveals widespread, persistent and ingrained failures by the health system to understand and comply with Ontario's safety laws including the *Occupational Health and Safety Act* and related regulations. Ontario's worker safety laws are based on the Internal Responsibility System.[40] SARS revealed an important structural problem when implementing the Internal Responsibility System in the health care sector: the fact that physicians often make worker safety decisions even though they may not be hospital employees.

The Commission therefore recommends:

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[40] The Ministry of Labour described the Internal Responsibility System as follows:

> Employers, workers and others in the workplace share the responsibility for occupational health and safety. Each party is responsible to act to the extent of the authority that they have in the workplace. This concept of the internal responsibility system is based on the principle that the workplace parties themselves are in the best position to identify health and safety problems and to develop solutions. This concept emerged from the Royal Commission into health and safety in mines in Ontario in 1976 and was soon adopted as the basis of the new *Occupational Health and Safety Act* in 1978.

Source: Ministry of Labour, presentation to the SARS Commission, November 17, 2003, p. 6.

- Worker safety in hospitals and other health care institutions requires reasonable legislative measures to include all physicians within the worker safety regime without interfering with the essential independence of physicians and without making them hospital employees. Such legislative measures may need to include not only the *Occupational Health and Safety Act* but also those statutes that govern the administration of health care institutions and the medical profession. It would be presumptuous for the Commission to recommend a prescriptive solution at this time. That task will require a good measure of consultation and a thorough analysis of the complex professional and statutory framework within which doctors work in health care institutions. The Commission recommends the amendment of worker safety, health care, and professional legislation to ensure that physicians who affect health worker safety are not excluded from the legislative regime that protects health workers. Because the prescriptive solution will require consultation and analysis and time and patience, it is essential to start now.

- That the Ministry of Labour conduct a meaningful review of the *Occupational Health and Safety Act* and related regulations in consultation with workplace parties and worker safety experts to examine how the Internal Responsibility System can better be implemented in the unique conditions of the health care system.

- That the Ministry of Labour and the Ministry of Health work together to harmonize requirements addressing health and safety in legislation and/or regulations administered by both ministries, which may overlap or conflict.

- That the Ministry of Labour and the Ministry of Health work together to review possible statutory or regulatory amendments to enhance the process for reporting, tracking and sharing of information, and removal of any barriers to information sharing related to outbreaks of infectious disease.

Joint Health and Safety Committees

The evidence reveals that Joint Health and Safety Committees, a fundamental component of Ontario's worker safety regime, were often sidelined during SARS.

The Commission therefore recommends:.

- That in any future infectious disease outbreak, the emergency response ensure the involvement of Joint Health and Safety Committees in a manner consistent with their statutory role in keeping workplaces safe.

- That worker safety programs at health care institutions include training for senior management on their roles and responsibilities with regard to Joint Health and Safety Committees.

- That management and worker representatives on Joint Health and Safety Committees be provided with appropriate training and sufficient time from their other duties to fulfill their JHSC obligations in a meaningful way, especially during public health crises.

Ontario Agency for Health Protection and Promotion, and Worker Safety

On June 22, 2004, Health Minister George Smitherman released a three-year public health action plan called Operation Health Protection. It indicated that the Ontario Health Protection and Promotion Agency and its new laboratory would begin operations in the 2006/7 fiscal year.[41] It will be important for the Agency to play an active role in worker safety issues.

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[41] The action plan said:

> An Agency Implementation Task Force is being struck to provide technical advice on the development and implementation of the Agency. Together with the advice of international and national experts, the Ministry will establish the Agency by 2006/07.

Source: Ministry of Health and Long-Term Care, *Operation Health Protection: An Action Plan to Prevent Threats to our Health and to Promote a Healthy Ontario* (June 22, 2004), p. 23.

The Commission therefore recommends:

- That just as NIOSH, the main U.S. federal agency responsible for worker safety research and investigation,[42] is part of the Centers for Disease Control (CDC), so the Ontario Agency for Health Protection and Promotion should have a well-resourced, integrated section that is focused on worker safety research and investigation, and on integrating worker safety and infection control.

- That any section of the Ontario Agency for Health Protection and Promotion involved in worker safety have, as integral members, experts in occupational medicine and occupational hygiene, and representatives of the Ministry of Labour, and consult on an ongoing basis with workplace parties.

- That the Ontario Agency for Health Protection and Promotion serve as a model for bridging the two solitudes of infection control and worker safety.

- That the Ontario Agency for Health Protection and Promotion ensure that it become a centre of excellence for both infection control and occupational health and safety.

- That the mandate of the Ontario Agency for Health Protection and Promotion include research related to evaluating the modes of transmission of febrile respiratory illnesses and the risk to health workers.

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[42] The duties of NIOSH (the National Institute for Occupational Safety and Health) include:

- Investigating potentially hazardous working conditions as requested by employers or employees.
- Evaluating hazards in the workplace, ranging from chemicals to machinery.
- Creating and disseminating methods for preventing disease, injury, and disability.
- Conducting research and providing scientifically valid recommendations for protecting workers.
- Providing education and training to individuals preparing for or actively working in the field of occupational safety and health.

See: http://www.er.doe.gov/ober/humsubj/appendix_b.pdf7. Naylor Report, pp. 52-5.

This research should also identify the hierarchy of control measures required to protect the health and safety of workers caring for patients with the respiratory illnesses.

Pandemic Planning

As occurred during SARS, there is now a debate over how influenza is spread and how health workers should be protected during a pandemic. Some experts believe influenza is mostly droplet-spread and surgical masks would be sufficient protection for health workers. Others believe that airborne transmission is a possible means of spreading influenza, and health workers should, as a result, wear fit-tested N95 respirators when caring for people suffering from a pandemic flu virus. The Commission is not in a position to wade into this evolving scientific debate. However, it is worth noting how the CDC has used the precautionary principle in addressing this issue. The CDC is saying, in effect, we don't know enough about how a pandemic influenza might be spread, so it's better to be safe than sorry. It is the kind of precautionary approach all pandemic planners should carefully consider.

The Commission therefore recommends:

- That the precautionary principle guide the development of pandemic-related worker safety policies, practices, procedures and guidelines.

- That in the development and implementation of the Ontario pandemic plan, the Ministry of Labour have responsibility for, and oversight over, all worker safety policies, practices, procedures and guidelines.

- That the Ministry of Labour ensure that the Internal Responsibility System and Joint Health and Safety Committees play a meaningful role in a pandemic response.

Pre-Planned Emergency Response Regarding Funerals

The families of SARS victims often were unable to have a traditional funeral. In some cases, funeral visitations were forbidden, or restricted. Mourners had to stand off at a distance at one burial. For some, there was no closure. Learning from this will be important in the event of another public health crisis like SARS, or if there is a flu pandemic.

The Commission therefore recommends:

- A pre-planned response involving the funeral industry, the Ministry of Health, public health, the hospital community, Emergency Measures Ontario and the office of the Chief Coroner, supported by agreed policies, procedures, protocols, memoranda of understanding and tabletop drill exercises to prevent the problems that arose during SARS.

Emergency Legislation

Ontario has passed into law the *Emergency Management and Civil Protection Act*, to fill the emergency power vacuum that existed at the time of SARS. It is understandable that the government, in its determination to have some kind of law in place before the next emergency struck, did not stop to address all the specific emergency legislation problems noted in detail in the hundred pages of Chapter 11 of the Commission's second interim report of April 5, 2005. These problems are serious but easily remedied now. They include:

- The overreaching power to suspend the *Habeas Corpus Act*, the *Elections Act*, the *Legislative Assembly Act*, and other constitutional foundations of ordered liberty under law.

- The power to lock up journalists without trial for violating gag orders.

- The failure to blueprint compensation for those who really need it, such as those quarantined, medical workers deprived of their livelihood and those whose jobs are disrupted.

- The failure to protect medical decisions of the Chief Medical Officer of Health from Emergency Commissioner encroachment.

- The failure to carry out clause-by-clause legal and constitutional scrutiny and obtain a detailed bill of health from the Attorney General.

- The confusion between the emergency powers and the regular *Health Protection and Promotion Act* powers.

It is understandable that the government in its desire to get the emergency legislation into place before the next disaster did not pause to address and to answer in detail the flaws referred to in the Commission's April 2005 report, flaws which are serious but easily remedied. The government has taken no public position in respect of the detailed flaws noted by the Commission. It is not as if the unimplemented recommendations have been considered and rejected for publicly stated reasons. The unimplemented recommendations have simply not been addressed publicly. The problems that have not been addressed and answered are noted in the chart at the end of this section.

The problem is not with the good intentions of those who will administer and exercise the emergency powers. The problem is that these awesome powers represent a profound change in our legal structure and raise issues that need to be addressed further in this statute that so fundamentally alters our system of government by law. Extraordinary powers like those in the *Emergency Management and Civil Protection Act* are inherently dangerous and require now the sober second thought and detailed legal clause-by-clause review and publicly stated justification which they did not explicitly receive before.

Ontario's emergency legislation brings to mind what President Lyndon Johnson said about the potential danger of all laws:

> You do not examine legislation in the light of the benefits it will convey if properly administered, but in the light of the wrongs it would do and the harms it would cause if improperly administered.

The Commission recommends the review and amendment of the emergency legislation in accordance with the unimplemented recommendations in Chapter 11 of the Commission's April 2005 second interim report.

Emergency Recommendations

Topic	Recommendation	Status
Encourage Compliance	• Include basic blueprint for compensation for loss caused by emergency powers, for example, quarantine wage loss.	Not yet implemented
Prevent Prepare Cooperate	• Provide for integration of emergency plans, and include explicit requirement that emergency plans establish clear allocations of powers and lines of authority.	Not yet implemented
Clarify Overlap with Existing Public Health Powers	• Clarify the relationship between the emergency powers conferred by this Bill and the powers conferred by the HPPA.	Not yet implemented
Primacy of CMOH	• Recognize explicitly the primary authority of CMOH in respect of the public health aspects of emergencies.	Not yet implemented
Emergency Commissioner Must Consult CMOH	• Require consultative exercise of powers as between the CMO and the CEM.	Not yet implemented
Emergency Powers	• Attorney General to conduct detailed clause-by-clause review of each proposed power for viability against legal and constitutional challenges.	Not yet implemented
	• Clarify whether the Bill incorporates the specific public health emergency powers listed in Commission's second interim report.	Not yet implemented

	• No power of compulsory immunization before evidence as to its efficacy is available.	Accepted
	• Review compulsory immunization legal issues to develop procedures that encourage immunization of health workers and public, akin to schoolchild immunization system	Not yet implemented
Property Seizure	• Clarify whether the Bill mandates the seizure or expropriation of property.	Accepted
	• Subject each proposed power to a thorough practical, legal, and policy analysis prior to adoption.	Not yet implemented
	• Where such analysis is not possible before enactment, impose a sunset period of no more than 2 years on the proposed power.	Not yet implemented
Power to Override All Other Laws	• Clarify whether the Bill's purported override of other laws and legal rights affects collective agreements.	Not yet implemented
	• Insulate fundamental statutes from the Override	Not yet implemented
	• Reposition the Override to highlight its importance.	Not yet implemented
	• Review constitutional legitimacy of the Override.	Not yet implemented
The Information Override	• Clarify the scope of the government's power to compel the disclosure of information.	Not yet implemented
Declaration Standard	• Amend the standard applicable to the declaration of emergencies so as to rely on the reasonable perception of the decision-maker.	Accepted

Emergency Orders	• Amend the standard applicable to the making of emergency orders so as to rely on the reasonable perception of the decision-maker.	Accepted
Power to Implement Emergency Plans	• Ensure there is no unintended conferral of powers.	Not yet implemented
Access to Courts	• Provide for access to legal process during emergencies.	Not yet implemented
Basket Power	• Incorporate an objective reasonableness standard into the language governing the use of this power.	Not yet implemented
Occupational Health and Safety	• Require emergency plans to provide for advance consideration of potential OHS issues.	Not yet implemented
Concurrent Powers	• Provide that conferral of new emergency powers does not derogate from existing powers.	Accepted
Liability Shield	• Provide protection from liability for acts which are necessitated by an emergency and which are authorized by other statutes but not the EMA – and vice versa.	Not yet implemented

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THE SARS COMMISSION

Final Report

Pages 1–873

Spring of Fear

Volume 2

The Honourable Mr. Justice Archie Campbell

December, 2006

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Dedication

This report is dedicated to those who died from SARS, those who suffered from it, those who fought the disease, and all those affected by it.

Letter of Transmittal

COMMISSION TO INVESTIGATE
THE INTRODUCTION AND
SPREAD OF SARS IN ONTARIO
The Honourable Archie Campbell
Commissioner

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December 11, 2006

The Honourable George Smitherman MPP
Minister of Health and Long-Term Care
10th Floor Hepburn Block
80 Grosvenor St.
Toronto, Ontario
M7A 2C4

Dear Mr. Minister:

Pursuant to the terms of reference, letter of appointment, and Order in Council establishing the independent SARS Commission I submit the attached third and final report.

Yours truly,

Archie Campbell
Commissioner

Introduction

SARS was a tragedy. In the space of a few months, the deadly virus emerged from the jungles of central China, killed 44 in Ontario and struck down more than 330[1] others with serious lung disease. It caused untold suffering to its victims and their families, forced thousands into quarantine, brought the health system in the Greater Toronto Area and other parts of the province to its knees and seriously impacted health systems in other parts of the country.

Nurses lived daily with the fear that they would die or infect their families with a fatal disease. The nine-year-old daughter of one nurse asked:

> Mommy, are you going to die?

Respiratory technicians, doctors, hospital workers, paramedics and home care workers lived with the same fear.

---

[1] For the purpose of this report, the Commission will use the number of SARS cases presented at its public hearings by Dr. Colin D'Cunha on September 29, 2003: 247 probable cases and 128 suspect cases, for a total of 375. These numbers were also contained in the final version of the Health Canada document "Canadian SARS Numbers" issued on September 3, 2003 (see http://www.phac-aspc.gc.ca/sars-sras/cn-cc/20030903_e.html). This was the final tally of SARS cases reconciled between Ontario authorities and Health Canada. It is this number (375) that is used in the report.

A retrospective study by the Ministry of Health and affected public health units issued in July 2006 suggested there were 351 SARS cases in Ontario, 301 probable and 50 suspect. We may never know how many people actually had SARS. The numbers are uncertain because SARS mimicked other diseases such as community acquired pneumonia, because there was no ready diagnostic test and because governments never seemed able to agree fully on how to count the cases. The retrospective study of SARS cases in Ontario cautioned: "As a result of only including cases meeting the Health Canada definition, it is not possible to know the range of the clinical spectrum of SARS illness; this report would likely represent cases at the more severe end of the clinical spectrum for SARS. For example, there were children who were part of family clusters of SARS and had either fever or mild respiratory symptoms, but did not meet the clinical criteria of the case definition and were not included in the case count. Some of these children had serological testing and were positive for antibodies to SARS-CoV, therefore it is possible that SARS is a milder illness in children than in adults" (Ministry of Health and Long-Term Care, in conjunction with the SARS Outbreak Analysis Committee, "Descriptive epidemiology of the severe acute respiratory syndrome (SARS) outbreak" Ontario, Canada, 2003, July 2006).

The Ontario Nurses' Association surveyed its members after the outbreak and found that almost two-thirds felt their health and safety had been compromised during the SARS outbreak. More than half felt their SARS work was not adequately respected or they were unsure if it was respected.

Their concerns were reflected in comments such as these:

> I was torn between staying and quitting because my husband was scared.
>
> Nobody listens to nurses.
>
> Totally devastating on family life.

Hospitals closed; cancer treatments and heart surgery were postponed. Patients were denied visitors. The sick and the dying suffered without the consolation of their families. The dead were disposed of quickly and in the absence of family and friends. The wider impact of SARS through cancelled heart surgery and delayed cancer treatments will never be known. And SARS was also an economic disaster for the country, the province and the GTA in particular.

Things happened that should never have happened: deaths, unspeakable loss, untold suffering. Where should we direct our outrage, our anger?

The evidence discloses no scapegoats. This was a system failure. The lack of preparation against infectious disease, the decline of public health, the failure of systems that should protect nurses and paramedics and others from infection at work – all these declines and failures went on through three successive governments of different political stripes. So too, in a sense, we as citizens failed ourselves because we did not insist that these governments protect us better.

SARS taught us lessons that can help us redeem our failures. If we do not learn the lessons to be taken from SARS, however, and if we do not make present governments fix the problems that remain, we will pay a terrible price in the face of future outbreaks of virulent disease.

Why was Ontario so unprepared for SARS? Our public health and emergency infrastructures were in a sorry state of decay, starved for resources by governments of all three political parties. The health system's capacity to protect its workers was in a state of neglect: what little existed was badly malnourished. There was no system in place to prevent SARS or to stop it in its tracks. The only thing that saved us from a worse disaster was the courage and sacrifice and personal initiative of those who stepped up – the nurses, the doctors, the paramedics and all the others – sometimes at great personal risk, to get us through a crisis that never should have happened. Underlying all their work was the magnificent response of the public at large: patient, cooperative, supportive.

But once is enough. If the deep systemic problems revealed by SARS are not fixed before the next crisis, will these individuals and the public step up once more? Will they throw themselves again into the breaches left open by the inaction of governments?

While SARS was a vicious disease, it presented us an opportunity to see a window into our strengths and weaknesses and to ask "what if" about many health issues. Asking those questions and holding governments accountable for their answers is the only way to ensure that we are protected when we are hit with the next outbreak or pandemic.

In the wake of SARS many questions arise, including:

- Why does SARS matter today?
- How bad was SARS?
- What went right?
- What went wrong?
- Were precautions relaxed too soon?
- Who is there to blame?
- Was information withheld?
- Did politics intrude?
- Was SARS I preventable?
- Was SARS II preventable?
- Were health workers adequately protected?
- Are we safer now?
- What must be done?

This third and final Commission report, based on public hearings, government and hospital documents, and confidential interviews of more than 600 people connected with SARS, tells the story of SARS and addresses these questions.

The Commission's first interim report, in April 2004, addressed the deep problems of public health infrastructure in Ontario and what must be done to make us safer. The Commission's second interim report, in April 2005, addressed glaring deficiencies in Ontario health protection and emergency response laws and what must be done to correct them.

Although the Ontario government has taken significant steps to improve our level of protection from infectious outbreaks like SARS, serious problems persist and much remains to be done.[2]

Why should we care about SARS now, three years after the event?

We should care about SARS because we should never forget the loss and suffering, and we should never forget the courage shown by so many. We should care about SARS because it was a wake-up call and it holds the lessons we must learn to protect ourselves against future similar outbreaks and against the global influenza pandemic predicted by so many scientists.

On February 23, 2003, Mrs. K, the 78-year-old matriarch of a large Scarborough family, returned home from a visit to Hong Kong. Unknowingly infected with SARS after staying at the same hotel as a doctor from China's Guangdong Province, she died at home from apparent heart failure on March 5. Her son, Mr. T, was admitted to Scarborough Grace Hospital (the Grace) on March 7. Suffering from a febrile respiratory illness, he waited in the crowded emergency ward for over 16 hours. During these hours he transmitted SARS to two other patients, sparking a chain of infection that spread through the Scarborough Grace Hospital, then to other hospitals through patient transfers, thatand ultimately killed 44 and sickened more than 330 others.

On March 7, British Columbia's index patient, who had stayed at the same hotel in Hong Kong as Mrs. K, was admitted to Vancouver General Hospital suffering from SARS, but there was no further spread. A combination of a robust worker safety and infection control culture at Vancouver General with better systemic preparedness ensured that B.C. was spared the devastation that befell Ontario.

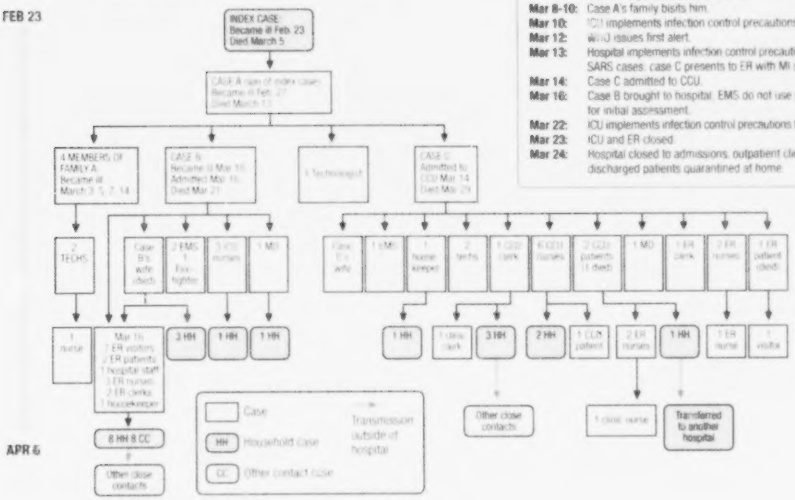
By contrast, at the Grace, the early chain of transmission from Mr. T to the first 84 cases, as shown in the following chart,[3] took place very quickly. The transmission of these 84 probable and suspect cases could be linked to the six members of the index family (the index case, her son and four members of the son's family).

---

[2] *The Health System Improvements Act*, 2006, was introduced to the Legislative Assembly on Tuesday, December 12, 2006, after this report was in the hands of the typesetter. The Commission has had no opportunity to analyze it in detail, and this footnote is added in the stage of proof correction. The act is a step forward in the sense that it proposes to implement approximately seven of the unimplemented recommendations of the Commission set out in the April 2004 and April 2005 interim reports. For concerns about the lack of accountability of the proposed CDC North to the Chief Medical Officer of Health, see the recommendations in this final report.

[3] Varia et al., "Investigation of a nosocomial outbreak of severe acute respiratory syndrome (SARS) in Toronto, Canada," *Canadian Medical Association Journal* 170, no. 6 (March 16, 2004): 927 (Varia et al., "Investigation of a nosocomial outbreak of SARS").

FIGURE 2: Transmission of 84 probable and suspect cases of SARS in the nosocomial outbreak that could be linked to the 6 members of the index family (the index case, her son [case A] and 4 members of case A's family)


FEB 23
INDEX CASE:
Became ill Feb. 23
Died March 5
CASE A (son of index case)
Became ill Feb. 27
Died March 13
4 MEMBERS OF FAMILY A
Became ill
March 3, 5, 7, 14
CASE B
Became ill Mar 15
Admitted Mar 16
Died Mar 21
1 Technologist
CASE C
Admitted to CCU Mar 14
Died Mar 29
2 TECHS
Case B's wife (died)
2 EMS 1 Fire-fighter
3 ICU nurses
1 MD
Case C's wife
1 EMS
1 house-keeper
2 techs
1 CCU clerk
6 CCU nurses
2 CCU patients (1 died)
1 MD
1 ER clerk
2 ER nurses
1 ER patient (died)
1 nurse
Mar 16
7 ER visitors
2 ER patients
1 hospital staff
3 ER nurses
2 ER clerks
1 housekeeper
3 HH
1 HH
1 HH
1 HH
1 clinic clerk
3 HH
2 HH
1 CCU patient
2 ER nurses
1 HH
1 ER nurse
1 visitor
8 HH 8 CC
Other close contacts
Case
HH
Household case
CC
Other contact case
Transmission outside of hospital
Other close contacts
1 clinic nurse
Transferred to another hospital
APR 6

Feb 23: Index case becomes ill.
Mar 7: Son of index case (cas A) presents to ER, transmits SARS to 2 patients (case B and C).
Mar 8-10: Case A's family bisits him.
Mar 10: ICU implements infection control precautions for case A.
Mar 12: WHO issues first alert.
Mar 13: Hospital implements infection control precautions for known SARS cases: case C presents to ER with MI symptoms.
Mar 14: Case C admitted to CCU.
Mar 16: Case B brought to hospital. EMS do not use precautions for initial assessment.
Mar 22: ICU implements infection control precautions for all patients.
Mar 23: ICU and ER closed.
Mar 24: Hospital closed to admissions, outpatient clinics closed, discharged patients quarantined at home.

SARS spread rapidly from the Scarborough Grace Hospital through the Toronto-area hospital system. The largest group of victims was health workers, because occupational safety[4] and infection control systems,[5] which are supposed to act together seamlessly, one focused on safeguarding workers, the other on protecting patients,[6]

---

4. "The purpose of an Occupational Health (OH) program is to promote the health and well-being of employees by providing a safe and healthy workplace, to prevent or decrease transmission of infection to or from health care workers due to workplace hazards, including biohazards, and to adhere to legislation". (Health Canada, *Prevention and Control of Occupational Infections in Health Care: An Infection Control Guideline* [Ottawa: Health Canada, 2002], p. 1).
5. "Nosocomial infections, acquired by patients as a result of receiving health care, are under the purview of IC [Infection Control]" (Health Canada, *Prevention and Control of Occupational Infections in Health Care*, p. 2).
6. Close cooperation between these two medical disciplines is essential for the safe operation of a health care facility. Health Canada's *Prevention and Control of Occupational Infections in Health Care* (2002) states:

> A component of the OH [occupational health] program relates specifically to infection control and must be planned and delivered in collaboration with the Infection Control (IC) program of the workplace. While this document supports the close collaboration of OH personnel with those responsible for the IC program, it does not discuss measures that IC practitioners use to assess and control infections in the patient population. Rather, it notes the essential collaboration of both groups working together where responsibilities overlap, especially in the management of outbreaks. Various workplaces will define the distinct roles of OH and IC practitioners differently

failed to save them from harm. Two nurses and a doctor died. A provincial emergency was declared on March 26, and strict measures were taken to contain the outbreak. "Code Orange" froze hospital transfers and admissions, paralyzing the health system.

There was very little spread into the community. Community spread was stopped immediately by bold public health efforts and stringent quarantine measures. By the last week in April, the tough countermeasures had proved successful and the outbreak subsided.

Ironically, it was just then, on April 23, that the World Health Organization (WHO) issued a travel advisory against Toronto, an economic disaster for the city and the province. Ontario's Minister of Health and others flew to Geneva and the travel ban was revoked after a week.

On May 1, Ontario and Health Canada took out large newspaper ads saying "Canada Has Turned the Corner on SARS," that Toronto was safe for business and tourism. Muted declarations of victory were heard. Soon it became official. The emergency was lifted on May 17, the province breathed a big sigh of relief, infection control and worker safety precautions were relaxed, hospitals held celebrations and the health system returned to the "new normal."

Then something terrible happened. On May 23, officials called a press conference to announce that a few new SARS cases had been discovered at St. John's Rehabilitation Centre. It was revealed, almost as an afterthought, that a "few" patients at North York General Hospital also were being investigated for possible SARS. Under questioning by the media, the truth emerged. A major outbreak of SARS had erupted at North York General Hospital. SARS was back with a vengeance.

We know now that SARS never went away. It had continued to simmer undetected at North York General Hospital. As soon as precautions were relaxed in early May, the disease surged back and spread, again undetected, to patients, staff, visitors and their families.

Stringent infection control and worker safety precautions, so recently relaxed, were imposed once more. Health workers donned their N95 respirators and gowns and gloves again. As soon as precautions were reinstated, the disease again subsided. We

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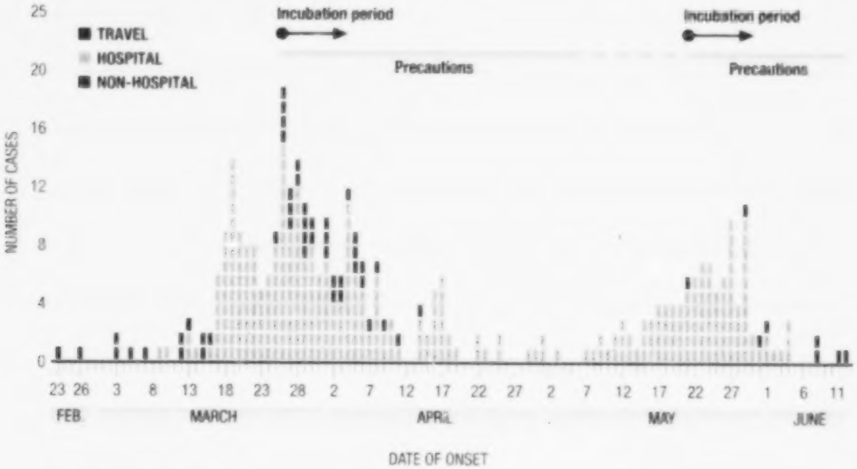
outbreaks. Various workplaces will define the distinct roles of OH and IC practitioners differently to suit their health care environment (p.17).

know now that behind the scenes a simple rule of nature was at work. Precautions up, disease down; precautions down, disease up. This chart[7] shows the remorseless pattern.

The Distribution of Cases in the Severe Acute Respiratory Syndrome (SARS) Outbreak in Ontario, Canada, from February 23 to June 12, 2003.



The second outbreak was devastating. In the end, 118 people contracted SARS through their affiliation or contact with North York General Hospital. Of these 118 people, 54 were health workers and 64 were patients or visitors.[8] Of these 118 people, 17 died, among them Nelia Laroza, a highly respected and much loved nurse who worked on 4 West, the orthopedic unit where SARS simmered undetected and undiagnosed. For those who fell ill and for those who lost loved ones, the cost of SARS II is immeasurable.

Whenever one speaks of cost, the cost to the government to protect us better, the cost to hospitals of better infection control, surveillance and worker safety, we should never forget the cost of SARS in sickness, pain, suffering and unspeakable loss.

The second outbreak also had a terrible impact on the morale of health workers. Many lost faith in the system and the ability of their employers to protect them. It was not only the public who had been led to believe that SARS was gone. Nurses and health workers were told that SARS was contained and that there were no new cases

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7. Dr. Donald Low and Dr. Allison McGeer, "SARS – One Year Later," NEJM 349:25, December 2003.
8. Presentation of Dr. Colin D'Cunha, SARS Commission Public Hearings, September 29, 2003.

of SARS. SARS was over. Nurses at North York General, concerned about outbreaks of staff illness and clusters of SARS-like illness, were told again and again by the hospital "Not SARS," but it turned out that these cases were in fact SARS.

On May 23, 2003, nurses and others at North York General learned, along with the rest of the world, that SARS was not in fact over. It was not contained. There were new cases of SARS right in their midst. Many of their colleagues were ill with SARS.[9]

But once again these nurses and doctors and clerks and technicians were asked to step into danger. And once again they did. Once again they risked their lives and health for the sake of others. What is it in their character and their professional culture that produced this courage? Will they heed that call the next time if they lack confidence that governments and hospitals will protect them better?

The stories of the outbreaks at Scarborough Grace Hospital and North York General Hospital reveal the systemic province-wide inadequacy of preparedness, infection control and worker safety systems. Common problems and themes emerge from the stories of both outbreaks. They reflect seven systemic problems that run like steel threads through all of SARS, through every hospital and every government agency:

- Communication
- Preparation and planning
- Accountability: who's in charge, who does what?
- Worker safety
- Systems: infection control, surveillance, independent safety inspections
- Resources: people, systems, money, laboratories, infrastructure
- Precautionary principle: action to reduce risk should not await scientific certainty

The lesson from the stories of Scarborough Grace, North York General and others, is not that they deserve blame. The lesson is that because of systemic weaknesses, what happened there could have happened at almost any other hospital in the province.

We must also remember that both Scarborough Grace Hospital and North York General are home to some of the finest and most dedicated physicians, nurses, administrators and health workers in Canada. Many of those doctors, nurses and other health workers worked tirelessly on the front lines during SARS, putting their lives at risk to help others. They watched their friends and colleagues fall ill, and at times had to care for them, all the while hoping they would not be next. As one Scarborough Hospital nurse so eloquently described her SARS experience:

---

[9] 51 health care workers were classified as suspect or probable SARS cases during the second outbreak. Most were from North York General Hospital. Presentation of Dr. Colin D'Cunha, SARS Commission Public Hearing, September 29, 2003.

> To watch this unfold, I don't have vocabulary to express it. Just thinking about it has been difficult. I think you can't comprehend, especially SARS I, how scary it was at that time because we had no idea. As we were shipping these people out to West Park and we are gloved, gowned and masked and you are reaching to touch these people not knowing if you will ever see them again, helping them get onto the bus, all we knew in the media was that people were dying. They probably had no idea what they were facing either. In my nursing career I have never faced anything so frightening. Looking back, I think at the time because we were tired and we were working, because it was so surreal you didn't have the opportunity to absorb it. That's when the nightmares came. The going in circles, the questioning, did we do it right, could we have done it better?

One nurse from 4 West, the epicentre of the second outbreak at North York General Hospital, who worked the weekend of May 24 and 25, 2003, after learning that SARS was back and that many of her friends and colleagues were ill, recalled how afraid she and her family were, knowing she had to go back to work the next day, in the epicentre of the outbreak:

> I remember going Saturday morning, and I said to my husband, he was in the other room, and I said, I'm going to go, but I am so afraid, and I saw my husband's face and we both had tears in our eyes because I thought I was the next one to get it. I was just so emotional. I just felt so awful. I have to go in, I'm still standing here, I haven't got SARS – well, to me I didn't have SARS – but I thought I was going to be the next one, 'cause all our nurses were falling down.

When she was asked by the Commission if she ever considered not going to work, she said:

> I was one of the ones that could go in, to help my work. I think it's your duty to go in as a nurse, to go to the last, to the very end.

These are the heroes of SARS. Nothing in this report detracts from their dedication, hard work and sacrifice. Nor does it detract from the distinction of the Scarborough

Hospital or North York General Hospital as excellent hospitals. To tell their stories is not to point fingers or assign blame; it is simply to tell what happened without any findings of misconduct or civil or criminal liability and without any adverse finding against the hospitals or anyone associated with them.

The surprise is not that Ontario's response to SARS worked so badly, but that it worked at all, given the lack of preparation and systems and infrastructure. Despite these problems, and despite the inevitable mistakes with a new disease and a system unprepared for it, SARS was stopped by the front-line workers and the scientists and specialists who stepped up and who were not afraid to take the strong measures that worked in the end.

One of the most contentious issues during SARS was the N95 respirator, which was supposed to protect nurses and other workers during close contact with SARS patients.[10] Although Ontario law required, since 1993, that anyone using an N95 had to be properly trained and fit tested to ensure full protection, few hospitals complied with this law and some even denied its existence. Fit testing was the subject of official confusion and heated public debate. It became a lightning rod for all the underlying problems of worker safety in hospitals.

The real problem is not the N95 respirator but the deep structural contradictions in hospital worker safety. These problems include a profound lack of awareness within the health system of worker safety best practices and principles. They include the failure of the Ministry of Labour to proactively inspect SARS hospitals until June 2003, when the outbreak was virtually over. In B.C., by contrast, the workplace regulator took decisive action and began inspections in early April, wanting to ensure that workers were being protected from the start as required by law. The problems include those in hospital administration and health bureaucracies who resist advice and enforcement on hospital turf by independent worker safety experts and the provincial Ministry of Labour. Most important, the problems include Ontario's failure to recognize in hospital worker safety the precautionary principle that reasonable action to reduce risk, like the use of a fitted N95 respirator, need not await scientific certainty.

There were during SARS two solitudes: infection control and worker safety. Infection control relies on its best current understanding of science as it evolves over time. It is unnecessary to point out again that infection control failed to protect nurses during SARS.

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[10] The N95 was sometimes required in other areas of a hospital even when not caring for SARS patients. The provincial directives for the use of the N95 changed throughout SARS and were not always clear or consistent.

Worker safety relies on the precautionary principle that reasonable action to reduce risk should not await scientific certainty. More will be said below about these two solitudes.[11]

The debate about the N95, respiratory protection and fit testing can be understood only in the context of the heavy burden of disease that fell on hospital workers, paramedics and others who worked in Ontario's health system during SARS. Two nurses and a doctor died from SARS. Almost half those who got SARS in hospital were people who got SARS on the job from working there.

Part of the heated debate during the SARS outbreak was over whether N95 respirators were really necessary. Those who argued against the N95, which protects against airborne transmission, believed SARS was spread mostly by large droplets. As a result, they said, an N95 was unnecessary except in certain circumstances, and a surgical mask was sufficient in most instances. They made this argument even though knowledge about SARS and about airborne transmission was still evolving. That more and more studies[12] have since been published indicating the possibility under certain circumstances of airborne transmission, not just of SARS but of influenza, suggests the wisdom and prudence of taking a precautionary approach in the absence of scientific certainty.

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[11] This is a good place to note that Chief Medical Officer of Health Dr. Sheela Basrur has taken steps to improve this situation. Only time will tell if these steps are effective. Dr. Basrur notes in her letter of March 9, 2006, to Linda Haslam-Stroud, RN, President, Ontario Nurses' Association:

> We recognize the need to ensure that the perspectives of occupational health and infection control receive consideration. In light of this, an occupational health physician is included in the membership of PIDAC and has been sitting on the committee since the inception of PIDAC in 2004. However, we see the importance in continuing to strengthen our links with the occupational health field and a physician delegate from the Ministry of Labour is now also sitting on PIDAC. This highlights our commitment to ensuring that occupational health and safety expertise is brought to the table during all PIDAC deliberations now and in the future. We are confident that building on this approach will assist in ensuring stronger linkages between occupational health and infection control on matters of science.

[12] I.T.S. Yu, Y.Li, T.W. Wong, et al., "Evidence of airborne transmission of the severe acute respiratory syndrome," *New England Journal of Medicine* 350 (2004): 1731-1739; Chad J. Roy and Donald K. Milton, "Airborne transmission of communicable infection-the elusive pathway," *New England Journal of Medicine* 350 (2004), www.nejm.org; I.T.S. Yu et al., "Temporal-spatial analysis of severe acute respiratory syndrome among hospital inpatients," *Clinical Infections Disease* 40 (2005): 1237-1243; Booth et al., "Detection of airborne severe acute respiratory syndrome (SARS) coronavirus and environmental contamination in SARS outbreak units," *Journal of Infectious Diseases* 191 (2005): 1472-1477; Tommy R. Tong, "Airborne severe acute respiratory syndrome coronavirus and its implications," *Journal of Infectious Diseases* 191 (2005): ; National Academy of Sciences, *Reusability of Face Masks During an Influenza Pandemic* (Washington, D.C.: National Academy of Sciences, April 2006); R. Tellier, "Review of aerosol transmission of influenza A virus," *Emerging Infectious Disease* (November 2006), www.cdc.gov/ncidod/EID/vol12noll/06-0426.htm.

The point is not who is right and who is wrong about airborne transmission. The point is not science, but safety. Scientific knowledge changes constantly. Yesterday's scientific dogma is today's discarded fable. When it comes to worker safety in hospitals, we should not be driven by the scientific dogma of yesterday or even the scientific dogma of today. We should be driven by the precautionary principle that reasonable steps to reduce risk should not await scientific certainty.

Until this precautionary principle is fully recognized, mandated and enforced in Ontario's hospitals, workers will continue to be at risk.

Of the almost 375 people who contracted SARS in Ontario, 72 per cent were infected in a heath care setting. Of this group, 45 per cent were health workers. Most of these workers were nurses whose jobs brought them into the closest contact with sick patients. And this does not show the full burden of SARS on nurses and paramedics and other health workers. In many cases nurses sick with undetected SARS brought illness, and in some cases death, home to their families.

One nurse answering the Ontario Nurses' Association questionnaire wrote:

> Fear … job not worth risk of dying. Lack of trust that nursing was being protected.

The Commission is not surprised that in Vancouver, with its greater systemic awareness of and commitment to worker safety, only one health worker contracted SARS.

Again and again, health workers in Ontario were told they were safe if they would only do what they were directed by the hospitals and the government. Again and again, these confident scientific assurances turned out to be tragically wrong. The March 17 Scarborough Grace Hospital incident, the March 24 Mount Sinai Hospital incident, the April 13 Sunnybrook Hospital incident and the May 28 North York General Hospital incident show dramatically that the system, despite its scientific self-confidence, was incapable of protecting workers from SARS.

It is no wonder that health workers became alarmed when they saw their colleagues sicken and die. It is no wonder that they became angry when they saw such incidents recur again and again with no apparent improvement in their safety. Nurses protested that hospitals did not comply with the safety law that required that N95 respirators had to be fitted to ensure proper protection.

It is easy to forget that everyone makes mistakes and that hospitals acted and continue to act in good faith. Ontario was not alone in its failure to protect health workers during SARS. The challenge of this new disease overcame the extent of their current scientific understanding. That is why it is better to forget dogmatic arguments based on current scientific understanding. That is why it is better to follow the precautionary principle that reasonable action to reduce risk should not await scientific certainty. And that is why it is important to recognize that Vancouver, which was spared the devastation that SARS inflicted on Ontario, had a far greater systemic commitment to the precautionary principle.

Nothing in the report constitutes an adverse finding or a finding of misconduct or civil or criminal liability against any individual or organization.

Hospitals did their best within the limits of their lack of preparation, their generally inadequate infection control systems and their inadequate worker safety systems. Inevitably they made mistakes in the fog of war against an invisible enemy. There was no lack of good faith in the administration of the existing systems, flawed though they were. Hospitals learned a lot from SARS, and a lot is better now. Hospitals are more conscious of infection control and worker safety. North York General Hospital, for instance, now has infection control and worker safety systems that have earned the praise of its nurses.

The Ministry of Labour learned a lot too. It now has staff with health care–specific expertise, and it has conducted stringent proactive inspections of all acute care facilities.

Our hospitals still have a long way to go, especially in worker safety and with the pushback from some against outside advice and help from the safety standards community and the Ministry of Labour. Hospitals are dangerous workplaces, like mines and factories, yet they lack the basic safety culture and workplace safety systems that have become expected and accepted for many years in Ontario mines and factories and in British Columbia's hospitals.

Some of the same Ontario hospital leaders who argued against the N95 respirator required to protect nurses and who actually denied there was a safety law that required the N95 to be fit tested[13] still insist that science, as it evolves from day to day, comes before safety. If the Commission has one single take-home message it is the precautionary principle that safety comes first, that reasonable efforts to reduce risk need not await scientific proof. Ontario needs to enshrine this principle and to enforce it throughout our entire health system.

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[13] See "It's Not About the Mask."

The Commission has not heard of any country or any health system that foresaw SARS. No one foresaw the sudden emergence of an invisible unknown disease with no diagnostic test, no diagnostic criteria, uncertain symptoms, an unknown clinical course, an unknown incubation period, an unknown duration of infectivity, an unknown virulence of infectivity, an unknown method of transmission, an unknown attack rate, an unknown death rate, an unknown infectious agent and origin, no known treatment and no known vaccine.

SARS taught us that we must be ready for the unseen. That is one of the most important lessons of SARS. Although no one did foresee and perhaps no one could foresee the unique convergence of factors[14] that made SARS a perfect storm, we know now that new microbial threats like SARS have happened and can happen again. However, there is no longer any excuse for governments and hospitals to be caught off guard and no longer any excuse for health workers not to have available the maximum level of protection through appropriate equipment and training.

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[14] See Institute of Medicine, "Microbial threats to health: emergence, detection, and response", (March 2003). This paper noted, ironically just as SARS hit us, earlier warnings, and said, "We must do more to improve our ability to prevent, detect, and control emerging – as well as resurging – microbial threats to health." It warned presciently against a potentially "catastrophic storm of microbial threats."

CHAPTER ONE
The Commission's Mandate and Hindsight

The Commission's mandate was to investigate how the SARS virus came to Ontario, how it spread and how it was addressed, but to do so without making any findings of fact with respect to civil or criminal responsibility of any person or organization. The relevant sections of the Commission's Terms of Reference state:

> 1. The subject matter of the investigation shall be:
>
> (a) how the SARS virus was introduced here and what measures, if any, could have been taken at points of entry to prevent its introduction;
>
> (b) how the SARS virus spread;
>
> (c) the extent to which information related to SARS was communicated among health care workers and institutions involved in dealing with the disease;
>
> (d) whether health care workers and patients in health care treatment facilities and long-term care facilities were adequately protected from exposure to SARS, having regard for the knowledge and information available at the time;
>
> (e) the extent of efforts taken to isolate and contain the virus and whether they were satisfactory or whether they could have been improved;
>
> (f) existing legislative and regulatory provisions related to or that have implications for the isolation and containment of infectious diseases, including the quarantine of suspected carriers;
>
> (g) any suggested improvements to provincial legislation or regulations, and any submissions that the Province of Ontario should make

> concerning desirable amendments to federal legislation or regulations; and,
>
> (h) all other relevant matters that Mr. Justice Campbell considers necessary to ensure that the health of Ontarians is protected and promoted and that the risks posed by SARS and other communicable diseases are effectively managed in the future.
>
> —
>
> 5. Mr. Justice Campbell shall conduct the investigation and make his report without expressing any conclusion or recommendation regarding the civil or criminal responsibility of any person or organization, without interfering in any ongoing criminal, civil or other legal proceedings, and without making any findings of fact with respect to civil or criminal responsibility of any person or organization.

To fully understand what went right and what went wrong during SARS, it was important that all the witnesses testify in a complete and forthright manner in a confidential setting without the fear that their words might be used in civil or criminal proceedings. Without this kind of frank, in-depth testimony, the Commission's ability to fully consider all the issues and make appropriate findings and recommendations would have been seriously hampered. Other than the public hearings held in the fall of 2003, most proceedings of the Commission were conducted by way of confidential interviews.[15]

To effectively discharge its mandate, the Commission used the same fact-finding approach as accident safety investigations, accepting that full disclosure and prevention of future accidents required the trading of anonymity for candour. This was the approach of the Accident Investigation Board examining the *Columbia* space shuttle disaster of February 2003. It stated:

> With a principal focus on identifying and correcting threats to safe operations, safety investigations place a premium on obtaining full and complete disclosure about every aspect of an accident, even if that information may prove damaging or embarrassing to particular individuals or

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[15] In most cases witnesses are quoted without personal attribution. In some cases witnesses agreed to be quoted by name.

> organizations. However, individuals who have made mistakes, know of negligence by others, or suspect potential flaws in their organizations are often afraid of being fired or even prosecuted if they speak out. To allay these fears, which can prevent the emergence of information that could save lives in the future, many safety investigations, including those by NASA and by the Air Force and Navy Safety Centers, grant witnesses complete confidentiality, as do internal affairs investigations by agency Inspector Generals. This confidentiality, which courts recognize as "privileged communication," allows witnesses to volunteer information that they would not otherwise provide and to speculate more openly about their organizations' flaws than they would in a public forum.[16]

The Transportation Safety Board of Canada takes a similar approach:

> The courts need accident investigations for both criminal and civil litigation purposes. In all of these, there is a necessary focus on who did something wrong. An agency like [the Transportation Safety Board of Canada] has no interest in determining blame or apportioning liability. We want to find out what happened, and why. The sole purpose of that information is so it can be used to reduce risk in the transportation system.
>
> The probability of success is also enhanced by the independence of the safety investigator. The greater the separation from the regulators and from the courts, the greater the probability that those involved in accidents will speak freely and honestly to the investigators. The Canadian law includes protection against the release of witness statements, and it also contains restrictions against the use of the TSB-C's information or conclusions in legal or disciplinary proceedings.[17]

Section 7 of the *Canadian Transportation Accident Investigation and Safety Board Act* states:

> **7.** (1) The object of the Board is to advance transportation safety by
>
> (*a*) conducting independent investigations, including, when necessary,

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16. National Aeronautics and Space Administration, *Columbia Accident Investigation Board – Volume 1* (August 2003), pp. 232-233.
17. Transportation Safety Board of Canada, "The evolution of transportation safety investigation, a Canadian perspective," http://www.tsb.gc.ca/en/media/speeches/2000/billtucker_rome.asp.

> public inquiries, into selected transportation occurrences in order to make findings as to their causes and contributing factors;
>
> (*b*) identifying safety deficiencies as evidenced by transportation occurrences;
>
> (*c*) making recommendations designed to eliminate or reduce any such safety deficiencies; and
>
> (*d*) reporting publicly on its investigations and on the findings in relation thereto.
>
> (2) In making its findings as to the causes and contributing factors of a transportation occurrence, it is not the function of the Board to assign fault or determine civil or criminal liability, but the Board shall not refrain from fully reporting on the causes and contributing factors merely because fault or liability might be inferred from the Board's findings.
>
> (3) No finding of the Board shall be construed as assigning fault or determining civil or criminal liability.
>
> (4) The findings of the Board are not binding on the parties to any legal, disciplinary or other proceedings.

Emphasizing fact-finding over assigning fault is also seen as playing an important role in promoting patient safety.

A study published in the *New England Journal of Medicine* stated:

> In hospitals, staff members often fail to report incidents primarily because of time pressure, fear of punishment, and lack of perceived benefit. Among physicians, shame and fear of liability, loss of reputation, and peer disapproval are particularly strong disincentives. On the other hand, striking increases in internal reporting have been achieved recently in a few hospitals that implemented non-punitive and responsive reporting systems.[18]

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[18] Lucien J. Leape, "Reporting of adverse events," *New England Journal of Medicine*, 347, no. 20, (November 14, 2002): 1633.

A study in the *Canadian Medical Association Journal* states:

> Health care organizations have historically focused on identifying and disciplining clinicians who were closest to incidents. However, experts suggest that the greatest gains in improving patient safety will come from modifying the work environment of health care professionals, creating better defenses for averting AEs [adverse events] and mitigating their effects.[19]

The Use and Abuse of Hindsight

In discharging its mandate, the Commission has been keenly aware that it has reviewed the events with the benefit of hindsight. This is an ability that those who fought SARS did not have as they faced a new and unknown disease. Of course, it is easy with the benefit of what we now know to judge what happened during SARS. It is easy now to say which systems were inadequate and which decisions were mistaken. That is the great advantage of hindsight.

The Commission recognizes the skill and dedication of so many individuals who worked beyond the call of duty. Twenty-hour days were common. Health workers and volunteers worked tirelessly against a strange and deadly disease in an environment that changed from day to day. They did not have the luxury of hindsight to guide them. The Commission has approached the examination of the events connected with SARS with admiration and with a profound respect for those who gave above and beyond the call of duty to care for the ill and to fight against the spread of the disease. All Ontarians owe them a great debt of gratitude.

While it is not fair to use hindsight to judge behaviour, it can be helpful in the search for lessons to be learned. Hindsight can provide great assistance in determining what went wrong and what went right. It includes what has been learned post-SARS and it can point in a direction for avoiding the repetition of mistakes in the future.

It is essential in the investigation of a public emergency that the public interest be served by a full account of what occurred and a catalogue of the lessons to be learned. To do so thoroughly will, of necessity, require the application of hindsight. This is unfair when speculation is entertained that someone "should have" or "might have" acted differently even though he or she did not have the knowledge that only became apparent after the event was over.

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[19] Ross G. Baker et al. "The Canadian adverse events study: the incidence of adverse events among hospital patients in Canada," *Canadian Medical Association Journal* 170 (May 25, 2004): 1685.

The Commission has sought to avoid the unfair use of hindsight in analyzing the events considered in this final report, and the reader is urged to do the same.

CHAPTER TWO: The Pandemic Threat

Introduction

It is impossible to deal with SARS without some reference to the looming threat of pandemic influenza. The world has long been familiar with influenza[20] and its ability to set off devastating pandemics.[21] As the Commission's second interim report said:

> The quintessential public health emergency is an outbreak of infectious disease that overwhelms the capacity of the public health system. The most serious predictable public health emergency is pandemic influenza, which would overwhelm not only the public health and hospital and medical systems but also the other systems that keep the province going.[22]

Three times in the last century new influenza strains have caused pandemics. The worst was in 1918-19, when an estimated 20 to 40 million people died worldwide, including an estimated 30,000 to 50,000 in Canada.[23]

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[20] "Influenza is caused by a virus that attacks mainly the upper respiratory tract – the nose, throat and bronchi and rarely also the lungs. The infection usually lasts for about a week. It is characterized by sudden onset of high fever, myalgia, headache and severe malaise, non-productive cough, sore throat, and rhinitis. Most people recover within one to two weeks without requiring any medical treatment. In the very young, the elderly and people suffering from medical conditions such as lung diseases, diabetes, cancer, kidney or heart problems, influenza poses a serious risk. In these people, the infection may lead to severe complications of underlying diseases, pneumonia and death". World Health Organization, "Influenza – fact sheet no. 211," [Geneva: March 2003].

[21] *Pandemic* is defined as "An epidemic occurring worldwide, or over a wide area, crossing international boundaries, and usually affecting a large number of people" (John M. Last, ed., *A Dictionary of Epidemiology* [Oxford, U.K.: 2001], p. 131).

[22] SARS Commission, second interim report, *SARS and Public Health*, April 5, 2005, p. 345 (SARS Commission, second interim report).

[23] Health Canada, *Canadian Pandemic Influenza Plan* (Ottawa: Health Canada February 2004), p. 17.

Many believe one of the types of the H5N1 avian flu virus[24] now circulating in Asia, Africa and Europe could give rise to a pandemic strain.[25] As SARS demonstrated, the next big outbreak might be caused by something completely different, totally new and entirely unexpected. When word spread of a mysterious respiratory illness in Guangdong, China, in early 2003, many feared a recurrence of H5N1. As the World Health Organization said:

> Alarm mounted … in February 2003, when an outbreak of H5N1 avian influenza in Hong Kong caused 2 cases and 1 death in members of a family who had recently travelled to southern China. Another child in the family died during that visit, but the cause of death is not known.[26]

As we now know, this was not to be the start of a flu pandemic.[27] The disease that caused the mysterious outbreak in China and then spread to Ontario, Singapore and elsewhere via Hong Kong was not H5N1, but SARS. This new disease was caused by a novel variety of the crown-shaped coronavirus,[28] which until then was not known to be a big danger to humans.[29]

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[24] World Health Organization (WHO), "Avian influenza – Fact Sheet" (January 15, 2004):

> The first documented infection of humans with an avian influenza virus occurred in Hong Kong in 1997, when the H5N1 strain caused severe respiratory disease in 18 humans, of whom 6 died. The infection of humans coincided with an epidemic of highly pathogenic avian influenza, caused by the same strain, in Hong Kong's poultry population.
>
> Extensive investigation of that outbreak determined that close contact with live infected poultry was the source of human infection. Studies at the genetic level further determined that the virus had jumped directly from birds to humans. Limited transmission to health care workers occurred, but did not cause severe disease.
>
> Rapid destruction – within three days – of Hong Kong's entire poultry population, estimated at around 1.5 million birds, reduced opportunities for further direct transmission to humans, and may have averted a pandemic.
>
> That event alarmed public health authorities, as it marked the first time that an avian influenza virus was transmitted directly to humans and caused severe illness with high mortality.

[25] "Concerns about the likely occurrence of an influenza pandemic in the near future are increasing. The highly pathogenic strains of influenza A (H5N1) virus circulating in Asia, Europe, and Africa have become the most feared candidates for giving rise to a pandemic strain" (R. Tellier, "Review of aerosol transmission of influenza A virus," *Emerging Infectious Disease* (2006).

[26] WHO, "Avian influenza – Fact Sheet" (January 15, 2004).

[27] The WHO has identified three prerequisites for the start of a pandemic:

> 1. A novel virus subtype must emerge to which the general population will have no or little immunity.
>
> 2. The new virus must be able to replicate in humans and cause serious illness.
>
> 3. The new virus must be efficiently transmitted from one human to another; efficient human-to-human transmission is expressed as sustained chains of transmission causing community-wide outbreaks. (WHO, "Avian influenza: assessing the pandemic threat" [Geneva: January 2005], p. 11).

A major study by the U.S. Institute of Medicine of the National Academies on future microbial threats warns that humankind remains ignorant of the full scope of diseases caused by microbial threats:

> Microbial threats continue to emerge, re-emerge, and persist. Some microbes cause newly recognized diseases in humans; others are previously known pathogens that are infecting new or larger population groups or spreading into new geographic areas.[30]

One major lesson from SARS is that we must prepare not only for potential looming threats like the H5N1, but also for the unexpected. That does not take away from the urgency of pandemic flu planning.

As the second interim report said:

> It would of course be unwise to accept at face value, without critical analysis, every portent of disaster. History has not been kind to Cassandra or Chicken Little. Those who warn of disasters have been accused throughout history of simply trying to scare people. Whether the next pandemic will be caused by H5N1 or another novel disease, or whether fears about H5N1 may, in hindsight, turn out to be exaggerated, it would be reckless not to prepare for the next pandemic. As the U.K. Ministry of Defence's Chief Scientist has said:

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28. "The appearance of coronaviruses was likened to that of some ornate crowns, the Latin for which is *croona* and the corona of the sun, that also being derived from the Latin for crown, so *corona* was adopted for the name of this virus group" (Dave Cavanagh, "Coronaviridae: a review of coronaviruses and toroviruses," in Axel Schmidt, Manfred H. Wolff and Olaf Weber, *Coronaviruses with Special Emphasis on First Insights Concerning SARS* [Basel, Switzerland 2005], p. 4).

29. "Coronaviruses in humans are usually considered to be the cause of nothing more serious than the common cold." (Cavanagh, "Coronaviridae: a review of coronaviruses and toroviruses"; "Coronavirus was not supposed to be of major importance in humans until we came across the SARS coronavirus" "Interview: the virus hunter," The New Scientist [January 22, 2005]).

30. Institute of Medicine of the National Academies, *Microbial Threats to Health: Emergence, Detection and Response* (Wasnington: Institute of Medicine o the National Academies, 2003), p. 1.

> Although it sounds alarmist, the balanced view is that we are overdue a major pandemic.
>
> Prudence and precaution require that effective planning and preparedness for an influenza pandemic be undertaken.[31]

While sensibly preparing for a possible pandemic we must never forget nature's capacity to toss a curveball when it's least expected.

SARS vs. Pandemic Flu

One big difference between SARS and a pandemic flu was that SARS was spread mostly in a health workplace, while a pandemic spreads through the community.

As Table 1 indicates, more than seven of every 10 SARS cases involved health workers, patients or visitors.

Table 1 – Probable and Suspect SARS Cases Contracted in Health Care Settings[32]

	Phase 1	**Phase 2**	Total Number of Suspect and Probable Cases	Percentage of Total Number of Cases (375)
Health workers	118	51	169	45%
Patients	23	35	58	15%
Visitors	20	23	43	11%
Total	161	109	270	72%

While SARS never spread uncontrollably into the community, it nevertheless brought Ontario to its knees and put unprecedented strain on the health system. An influenza pandemic would be much more catastrophic because of the devastating scale of its community impact. The Ontario Health Pandemic Influenza Plan estimates that:

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[31] SARS Commission, second interim report, p. 348.

[32] Dr. Colin D'Cunha, presentation to the SARS Commission public hearings, September 29, 2003.

> Depending on the severity of the pandemic, Ontario could see between 1.8 and 4.2 million outpatient visits, between 7,500 and 65,000 hospitalizations and between 2,900 and 19,700 deaths from influenza.[33]

Despite these and other differences, many lessons from SARS can be applied to preparing for a pandemic and for another infectious disease outbreak like SARS.

Precautionary Principle

One of the key lessons of SARS is the importance of the precautionary principle that reasonable steps to reduce risk should not await scientific certainty.

Mr. Justice Horace Krever emphasized this principle in the report of the Commission of Inquiry on the Blood System in Canada:

> Where there is reasonable evidence of an impending threat to public health, it is inappropriate to require proof of causation beyond a reasonable doubt before taking steps to avert the threat.[34]

This approach was in use at Vancouver General Hospital when it received B.C.'s first SARS case on March 7, 2003, the same day Ontario's index case presented at the Scarborough Grace Hospital. When dealing with an undiagnosed respiratory illness, health workers at Vancouver General automatically go to the highest level of precautions and then scale down as the situation is clarified. While the circumstances at Vancouver General and the Grace Hospital were different, it is not surprising that SARS was contained so effectively at an institution so steeped in the precautionary principle.

In Ontario, the precautionary principle was not a fundamental part of the SARS response, and the situation has not sufficiently improved since the end of the outbreak. As one witness told the SARS Commission's public hearings:

> In the workplace context, while the precautionary principle endorses a philosophy of extreme caution until the hazard is well understood, often the opposite approach is taken.[35]

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[33] Ontario Health Pandemic Influenza Plan, May 2004, p. 10.

[34] The Honourable Mr. Justice Krever, Commission of Inquiry on the Blood System in Canada, (Ottawa: November 26, 1997), 295 and 989-994. (The Krever Report)

[35] SARS Commission public hearings, November 18, 2003.

During SARS, these two approaches to worker safety – one based on the precautionary principle, the other on scientific certainty – came to a head over the issue of the N95[36] (a respirator that protects much more than a surgical mask) and fit testing.[37] Some experts believed that since SARS was spread mostly by large droplets, surgical masks were sufficient in most situations. Others argued that since not enough was known about how SARS was spread, and since the possibility of airborne transmission by much smaller particles could not be ruled out, it was better to be safe than sorry and to require health workers to wear fit-tested N95 respirators.

Knowledge about how SARS is transmitted has evolved significantly since the outbreak. Some recent studies suggesting a spread by airborne transmission lend weight to a precautionary approach to protect health workers against a new disease that is not well understood.

There is now a similar debate over how influenza is spread and how health workers should be protected during a pandemic.

Some experts believe that influenza is mostly droplet-spread and that surgical masks are sufficient protection for health workers. Others believe that airborne transmission is a possible means of spreading influenza and that health workers should, as a result, wear fit-tested N95 respirators when caring for people suffering from a pandemic flu virus.

The Commission is not in a position to wade into this evolving scientific debate. However, it is worth noting how the Centers for Disease Control (CDC) has used the precautionary principle in addressing this issue.

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[36] Using highly efficient filtering materials, N95 respirators are one of the nine types of disposable particulate respirators that are independently tested and certified by the National Institute for Occupational Safety and Health in the United States, which is part of the Centers for Disease Control. "The N indicates that the respirator provides no protection against oils and the 95 indicates that it removes at least 95% of airborne particles during 'worst case' testing using a most-penetrating-sized particle," Yassi et al., "Research gaps in protecting healthcare workers from SARS," *Journal of Occupational and Environmental Medicine.*

[37] Fit testing helps users select a respirator that best fits their faces. It teaches them how to get a proper seal each time they use respirator, a procedure known as a *seal check*, and the safe donning and doffing of a respirator. And it conducts a test to verify that the chosen respirator works properly. There are two types of tests: a qualitative fit test "relies on the user's subjective response to taste odour or irritation," and a quantitative fit test "relies on an instrument to quantify the fit of a respirator" (Healthcare Health and Safety Association, "Respiratory Protection Programs").

When originally issued in November 2005, the U.S. pandemic plan[38] recommended the use of N95 or higher respirators during medical activities with a high likelihood of generating infectious respiratory aerosols. But it recommended the following respiratory protection during patient care:

> Wear a surgical or procedure mask for entry into patient room.[39]

In October 2006, the CDC used a precautionary approach when it updated the recommendations for respiratory protection:

> The Centers for Disease Control and Prevention (CDC) is aware of no new scientific information related to the transmission of influenza viruses since the drafting of the *HHS Pandemic Influenza Plan* (www.hhs.gov/pandemicflu/plan/). As stated in the plan, the proportional contribution and clinical importance of the possible modes of transmission of influenza (i.e., droplet, airborne, and contact) remains unclear and may depend on the strain of virus ultimately responsible for a pandemic. Nevertheless, in view of the practical need for clarification, CDC has re-reviewed the existing data, as described below, and has prepared interim recommendations on surgical mask and respirator use. The purpose of this document is to provide a science-based framework to facilitate planning for surgical mask and respirator use in health care settings during an influenza pandemic.[40]

Regarding what kind of respiratory protection health workers should use, the CDC's updated recommendations now say:

> This document … reflects concerns that additional precautions are advisable during a pandemic – beyond what is typically recommended during a seasonal influenza outbreak N95 – in view of the lack of pre-existing immunity to a pandemic influenza strain, and the potential for the occurrence of severe disease and a high case-fatality rate. Extra

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[38] HHS Pandemic Influenza Plan, November 2005, www.hhs.gov/pandemicflu/plan (HHS Pandemic Influenza Plan).

[39] HHS Pandemic Influenza Plan, p. S4-24.

[40] Centers for Disease Control and Prevention (CDC), "Interim guidance on planning for the use of surgical masks and respirators in health care settings during an influenza pandemic" (October 2006), pp. 1-2.

> precautions might be especially prudent during the initial stages of a pandemic, when viral transmission and virulence characteristics are uncertain, and medical countermeasures, such as vaccine and antivirals, may not be available.
>
> The prioritization of respirator use during a pandemic remains unchanged: N-95 (or higher) respirators should be worn during medical activities that have a high likelihood of generating infectious respiratory aerosols, for which respirators (not surgical masks) offer the most appropriate protection for health care personnel. **Use of N-95 respirators is also prudent for health care personnel during other direct patient care activities (e.g., examination, bathing, feeding) and for support staff who may have direct contact with pandemic influenza patients.**[41] [emphasis added]

The CDC is saying, in effect, we don't know enough about how a pandemic influenza might be spread, so it's better to be safe than sorry. It is the kind of precautionary approach all pandemic planners should carefully consider.

Protecting the Front-Line Workers

Front-line health workers saved the day during the SARS outbreak. A significant number, 169, became ill, and three died. The performance of front-line workers evoked admiration from many.

An expert from outside Ontario was quite candid about problems in Ontario's public health system but singled out the performance of health workers trying to contain the outbreak:

> I remain in awe of how hard a whole bunch of people were working at trying to deal with the issue of SARS. I have the utmost respect for the efforts that people put into some situations literally putting their lives on the line. For someone who has done infectious diseases in Canada for a

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[41] CDC, "Interim guidance on planning for the use of surgical masks and respirators in health care settings during an influenza pandemic" (October 2006), p. 2.

> long time, that is very unusual but I mean people and particularly in the front line were working unbelievably hard.[42]

The nurses, hospital staff and ambulance attendants did their jobs despite a string of problems.

In most workplaces, the primary role of occupational health and safety laws, regulations and systems is to protect workers. Health care settings are different. They are workplaces where occupational health and safety protections perform a double duty, safeguarding workers while also shielding patients and visitors. As the Ontario Nurses' Association and the Ontario Public Service Employees Union told the Commission in their joint submission:

> Workplace health and safety is important in any workplace but in a health care environment it's doubly important. If workers are not protected from health and safety hazards, patients and the public are not protected either. It's that simple.[43]

This important lesson of SARS is directly applicable to pandemic planning.

Effective Leadership

SARS demonstrated the importance of medical leadership that is free of bureaucratic and political pressure. The absence of such leadership can sap public confidence and trust, crucial ingredients in any successful effort to fight deadly infectious diseases such as pandemic influenza or SARS.

As the SARS Commission noted in its second interim report:

> SARS showed us that while cooperation and teamwork are important, it is essential that one person be in overall charge of our public health defence against infectious outbreaks. The Chief Medical Officer of

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[42] SARS Commission, first interim report, *SARS and Public Health in Ontario*, April 15, 2004, p. 29 (SARS Commission, first interim report)

[43] ONA and OPSEU, joint submission to the SARS Commission public hearings, November 17, 2003.

> Health should be in charge of public health emergency planning and public health emergency management.[44]

Ontario's Chief Medical Officer of Health, Dr. Sheela Basrur, underscored that point in her testimony before the Legislature's Justice Policy Committee:

> The point is that someone has to be in charge; people have to know where the buck stops, where decisions are made and where they can be unmade, and who the go-to person is.[45]

During SARS it was unclear who was in charge. This cannot be allowed to happen during a pandemic.

A good start has been made in this regard, but more remains to be done.

The second interim report recommended that:

> Emergency legislation provide that the Chief Medical Officer of Health has clear primary authority in respect of the public health aspects of every provincial emergency including:
>
> - Public health emergency planning;
> - Public communication of health risk, necessary precautions, regular situation updates;
> - Advice to the government as to whether an emergency should be declared, if the emergency presents at first as a public health problem;
> - Strategic advice to the government in the management of the emergency;
> - Advice to the government as to whether an emergency should be declared to be over, and emergency orders lifted, in respect of the public health measures taken to fight the emergency;

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[44] SARS Commission, second interim report, p. 2-3.

[45] Ontario Legislative Assembly, Standing Committee on Justice Policy, *Official Report of Debates (Hansard)*, Public Hearings, August 18, 2004, p. 142 (Justice Policy Committee, public hearings).

> - Advice to the government in respect of emergency orders of a public health nature and emergency orders that affect public health, e.g., ensuring that gasoline rationing does not deprive hospitals of emergency supplies;
>
> - Delegated authority in respect of emergency orders of a public health nature; and
>
> - Such further and other authority, of a nature consistent with the authority referred to above, in respect of the public health aspects of any emergency.
>
> Emergency legislation provide that the Chief Medical Officer of Health shall exercise his or her authority, so far as reasonably possible, in consultation with the Commissioner of Emergency Management and other necessary agencies. Conversely, the Commission recommends that emergency legislation provide that the Commissioner of Emergency Management, on any matter affecting public health, shall exercise his or her authority so far as reasonably possible in consultation with the Chief Medical Officer of Health.[46]

The Province has yet to act on these recommendations.

Effective Communication

During a public health emergency like SARS or an influenza pandemic, good public communication contains an effective blend of empathy, candour and strong leadership.

The first interim report said:

> When successful, public communication provides everyone with vital information, helps them make an informed assessment of the situation and the attendant risks, bolsters trust between the public and those solving the crisis, and strengthens community bonds. As Dr. Garry Humphreys, Medical Officer of Health for Peterborough County and

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[46] SARS Commission, second interim report, pp. 420-421.

> City, said at the Commission's public hearings:
>
> > It is important to have a willing cooperation of the community with regards to disease control through voluntary quarantine. This can only be achieved when the community is continuously kept informed. In addition, those placed under quarantine must be fully informed of the circumstances, including what is expected of them and the followup through routine monitoring by staff of the health unit.
>
> A failed effort can breed confusion and antagonism, disrupt an orderly response, poison relations with public authorities and sow mistrust. It can also significantly hamper the … response.[47]

The first interim report noted that Tony Clement, then Ontario's Minister of Health, made a decision to make SARS information public, a good decision that was unfortunately not supported by any advance planning. As the Commission noted:

> Unfortunately, Ontario had neither a public health communications strategy nor, as a default, a pandemic response plan with an integrated communication component.[48]

The government acted by amending the *Health Protection and Promotion Act* to give the Chief Medical Officer of Health the power to communicate with the public.[49] Health Minister George Smitherman introduced the amendment in the Ontario Legislature on October 14, 2004. He said:

> When there is a health crisis and politicians speak, some people listen. But when there is a health crisis and the Chief Medical Officer of Health speaks, everybody listens. It is at those times, times when diseases like SARS or West Nile are a real threat, that the Chief Medical Officer of Health must be able to interact with his or her patients, all 12 million of them.[50]

The amendment received royal assent on December 16, 2004.

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[47] SARS Commission, first interim report, p. 57.
[48] SARS Commission, first interim report, p. 60.
[49] SARS Commission, second interim report, p. 24.
[50] SARS Commission, second interim report, p. 23.

The second interim report noted that this amendment:

> … gives the Chief Medical Officer of Health the power to communicate with the public, stating that the Chief Medical Officer of Health may make any other reports respecting public health as he or she considers appropriate and may present such a report to the public or any other person he or she considers appropriate.[51]

There was much confusion during SARS about who was the official and reliable voice.

This cannot be allowed to happen during a pandemic.

Public Cooperation, Public Trust and Voluntary Compliance

Public cooperation is essential in the fight against any outbreak of infection. Legal orders and emergency powers are useless without public cooperation. Public cooperation during SARS was outstanding when 15,000 to 20,000 people were quarantined. The government has legal powers under the *Health Protection and Promotion Act* to issue quarantine orders, yet only 27 had to be issued. It was voluntary public cooperation, not legal orders or emergency powers, that won the fight against SARS.

This vital importance of voluntary compliance is one of the most important lessons of SARS. Voluntary compliance ensured that SARS could be contained. Voluntary compliance is even more essential in a crisis the magnitude of a pandemic.

The Commission's second interim report said:

> Voluntary compliance is the bedrock of any emergency response. Even the most exquisite emergency powers will never work unless the public cooperates.
>
> Legal powers are false hopes during a public crisis. No law will work during a disaster without the public cooperation and individual sacrifice shown during SARS. Nor will any law work without the machinery that

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[51] SARS Commission, second interim report, p. 24.

> supports and compensates those who sacrifice for the greater good of public health.
>
> Voluntary compliance also depends on public trust in those managing the emergency and public confidence that medical decisions are made on medical evidence, not on grounds of political expediency or bureaucratic convenience. [52]

A major U.S. study of the quarantine in Toronto found that the cooperative spirit in the general population was the driving force in compliance. The study drew on a series of interviews, telephone polls and focus groups with both health workers and the general population:

> In general, fear of running afoul of the law played little role in compliance. None of the 68 General Population Survey respondents who were directly affected by quarantine said that their most important reason for complying was to avoid enforcement measures and penalties, and 24 of 30 respondents who had been quarantined and were aware of the penalties said that their knowledge of the penalties did not affect their decision to comply.[53]

The U.S. researchers identified loss of income as the main concern of people going into quarantine. Initially, the Government of Ontario offered no income support, and when it finally did, the message was at first not clear. As the study noted, on April 24, 2003, the Premier of Ontario reversed his position on compensation and said:

> People will not have to choose between doing the right thing and putting food on the table.[54]

However, concrete steps were not taken until May 27, when the province announced a $190 million compensation package for health workers who had lost wages due to SARS. It took until June 13 for the government to broaden the compensation to non-health workers who had missed work due to quarantine or caring for someone else in quarantine.[55]

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[52] SARS Commission, second interim report, p. 308.

[53] Clete Di Giovanni, Jerome Conley, Daniel Chiu and Jason Zaborski, "Factors influencing compliance with quarantine in Toronto during the 2003 SARS outbreak," *Biosecurity and Bioterrorism: Biodefense Strategy, Practice and Science*, 2, (2004): p. 267 (Di Giovanni et al., "Factors influencing comliance with quarantine.").

[54] Di Giovanni et al., "Factors influencing comliance with quarantine," p. 267.

[55] Di Giovanni et al., "Factors influencing comliance with quarantine," p. 267.

Despite the untimely release of the programme, Dr. James Young, Ontario's Commissioner of Public Safety and Security during the SARS outbreak, saw the compensation program as a vital element in the success of the voluntary quarantine program:

> One of the important ways of getting people to abide by it [the quarantine] was by offering financial compensation so they would in fact abide by it and stay in quarantine if and when they were ordered by the medical officer of health. We got approval from the Ontario government to institute a quarantine programme and to pay people for that. That resulted in us being able to manage the quarantine in an effective manner.[56]

It is essential in any emergency to compensate those who suffer an unfair burden of personal cost for cooperating in public health measures like quarantine. The U.S. study also identified poor logistical support, psychological stress, spotty monitoring of compliance, inconsistencies in the application of quarantine measures between various jurisdictions and problems with public communications.

Public cooperation depends on public confidence that the government will do its part to help those who go into quarantine and step up to help. To ensure continued cooperation, governments must act more quickly to provide income protection for people who have been quarantined and must set up logistics support for them such as grocery deliveries. Worry about loss of income topped the list of concerns of people quarantined during the SARS outbreak.

These are useful lessons from SARS that should be applied to any pandemic situation.

In its second interim report, the Commission recommended that:

> Emergency legislation require that every government emergency plan provide a basic blueprint for the most predictable types of compensation packages and that they be ready for use, with appropriate tailoring, immediately following any declaration of emergency.[57]

The Province has yet to act on this recommendation.

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[56] Justice Policy Committee, public hearings, August 3, 2004, p. 3.

[57] SARS Commission, second interim report, p. 257.

Officials must also remain careful not to raise the alarm too loudly and too early. Not only can a failure to act decisively in the face of a public health emergency cause a loss of faith by the public in their leaders, so can an overreaction of the kind that occurred in the U.S. in 1976, when a few human cases of what appeared to be a new strain of swine flu appeared at Fort Dix, New Jersey, and led to the belief among many experts that a pandemic was imminent.

As Dr. Richard Krause, a key decision maker in 1976, recalled:

> After much consultation and discussion at the highest levels of the US government, the Public Health Service launched a program to immunize 50 million people. Following the largest voluntary mass vaccination campaign since the mass vaccination programs with Salk and Sabin polio vaccines, nearly 25 per cent of the US population, or 45 million persons, were vaccinated by October, 10 short months after the alarm was sounded.[58]
>
> The epidemic, however, did not occur. The Fort Dix outbreak was a false alarm, and the American public and much of the scientific community accused us of overreacting. As someone noted, 1976 was the first time we had been blamed for an epidemic that did not take place.[59]

Preparedness, Planning and Resources

Ontario was not ready for SARS, or, if it had come, a pandemic. The public health system was, as noted in the first interim report, broken. The building blocks of public health emergency preparedness and planning were missing. There was insufficient attention to worker safety. There was not enough coordination and communication. There were too few infection control, worker safety and public health resources.

Ontario didn't even have a pandemic influenza plan. Such a plan would have been useful during SARS, especially early in the outbreak when it was feared SARS would spread uncontrollably into the community. To make do, Ontario had to borrow B.C.'s pandemic plan.

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[58] The vaccinations became controversial when three elderly resident of Pittsburgh who had pre-existing heart conditions died after being vaccinated. Pennsylvania and nine other states suspended vaccinations. Vaccinations resumed after President Gerald Ford and his family were shown on prime-time television receiving the shots.

[59] Dr. Richard Krause, "The swine flu episode and the fog of epidemics," *Emerging Infections Diseases Journal* Vol. 12, no. 1 (January 2006).

Since SARS, much progress has been made to better prepare Ontario for an influenza pandemic or an outbreak of another infectious disease like SARS. This is a commendable start, but more needs to be done. The measures implemented to date mark merely the end of the beginning of the effort to ensure that Ontario can effectively respond to a future public health crisis.

As the second interim report said:

> There is wide agreement on what still needs to be accomplished. But it takes unflagging commitment and determination to rebuild a broken public health system. Without a sustained commitment to fund the necessary changes, much that has been done will wither away and much that is urgently required will never be realized.[60]

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[60] SARS Commission, second interim report, p. 297.

CHAPTER THREE: The Story of SARS

Guangdong to Scarborough Grace Hospital

Ontario's SARS tragedy began a world away, yet only a plane ride away, in a land hugely different from Canada. Guangdong is a province of China, the landmass surrounding Hong Kong on the South China Sea. Its subtropical monsoon climate nourishes moist green areas where plants grow 12 months a year. The province is slightly larger than Southern Ontario, but much more densely populated, with up to 110 million citizens compared with Southern Ontario's 11 million.[61]

South China is 12,000 kilometres distant from Ontario, but the fact that deadly SARS came to us so quickly and easily from such a great distance proves again that "global village" is not just a catch phrase. It reinforces the reality that a sneeze on the other side of the world can bring infectious disease to us in days, if not hours.

Although the two provinces seem worlds apart, they are increasingly connected through trade and immigration. Guangdong has been a major source of immigrants for North America, including Canada.

Guangdong is one of the more prosperous areas of China. It has teeming industrial centres surrounded by fertile farming areas where people work and live in close proximity to their animals. Animals are an important part of life there, and not just for the farm folk. South China is famous for its live animal markets. Many people believe that eating freshly killed wild animals promotes vitality and good health. Live animal markets display cages of domestic and wild animals, from cats and dogs to snakes and bats and civet cats, which are closely related to the mongoose. Customers choose what they wish at the markets and see it butchered on the spot.

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[61] Xinhua News Agency February 16, 2005, as found at www.chinaview.cn.

These live markets and the fact of animals and humans living so close together are known factors in the development of new diseases, particularly influenzas. Links between animal-human relationships and disease worry the World Health Organization (WHO), which has said that health authorities should "examine the risk to humans from dangerous agricultural practices such as raising chickens, ducks, pigs and other animals together – often in unsanitary conditions and normally with no barriers between them and humans."[62]

It is in this environment of "wet" markets and crowded farm settings that SARS is believed to have developed.

On November 16, 2002, a 45-year-old man in Foshan, a Guangdong city of 3.4 million about 100 kilometres from Hong Kong,[63] became ill with an unusual respiratory illness. No one is quite sure where or how he contracted the illness. He did not travel in the previous 14 days, but he did prepare chicken, domestic cat and snake for household consumption. Some of the earliest SARS patients had links to the use of wild animals for food.[64]

The man, an administrator and local leader in the province, was married with four children. Within weeks, his 42-year-old wife, a 22-year-old niece, a 50-year-old aunt and her 50-year-old husband also became ill.[65]

He was Patient 1, the earliest retrospectively identified case of a previously unknown lung disease later named severe acute respiratory syndrome.[66] He and his four family

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62. Dr. Shigeru Omi, World Health Organization Regional Director for the Western Pacific, speech to 2nd FAO/OIE Regional Meeting on Avian Influenza Control in Asia, Ho Chi Minh City, Viet Nam, 23 to 25 February 2005.
63. Data on Foshan are from materials developed by a 2004 Massachusetts Institute of Technology planning workshop. See http://web.mit.edu/11.952/www/en/today/today.htm.
64. Xu R-H, He J-F, Evans MR, Peng G-W, Field HE, Yu D-W, et al. "Epidemiologic clues to SARS origin in China." *Emerg Infect Dis*. 2004 Jun. Available from: http://www.cdc.gov/ncidod/EID/vol10no6/03-0852.htm (Xu R-H et al., "Epidemiologic clues to SARS origin in China.").
65. Xu R-H Article.
66. In June 2004, researchers from China, the United Kingdom, Australia and the World Health Organization published the results of their retrospective analysis of the Guangdong surveillance database and a case investigations database. They also interviewed staff from the Guangdong Provincial Centers for Disease Control, and Foshan Municipal Center for Disease Control to obtain supplementary information on early-onset cases. Information on early cases in the neighbouring Guangxi Province was obtained from local investigators by a visiting WHO team. An important limitation is that none of the cases cited were laboratory confirmed. Diagnoses relied on clinical case definitions. See: Xu R-H et al., "Epidemiologic clues to SARS origin in China."

members are thought to have been the first cluster[67] of a disease that infected 8,096 people around the world and killed 774 before ebbing in the summer of 2003.[68] Guangdong was especially hard hit, accounting for more than 1,500 probable cases and 58 deaths.[69] Southern Ontario was the worst-affected jurisdiction outside Asia, with SARS infecting 375 people and killing 44.[70]

It took months after this first known infection for health authorities throughout the world to identify the disease as something new, learn its characteristics and determine how to deal with it. In the early days of SARS, little was known by anyone anywhere about this mysterious disease. Medical workers had no diagnostic criteria and no clinical test, and the incubation period was unknown. The method of transmission was uncertain, as was the effectiveness of protective equipment and safety requirements. To this day it is still not known exactly how the disease developed or whether it will reappear.

SARS spread from Foshan into other areas of Guangdong. By January 2003 it was seen in Guangzhou, the provincial capital, where workers in the health industry began to fall ill.

Communication about spread of the disease was poor. Poor communication became a hallmark of the outbreak over the coming months, and when it arrived in Canada. Again and again, as noted below, the Ontario response to SARS was hampered by lack of communication between governments, public authorities, agencies and hospitals.

There were some alerts, but for various reasons they did not register as clearly as they should have. On November 27, 2002, the WHO received a Chinese-language news report of a flu outbreak in China. The report had an English heading but was not fully translated.

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[67] Cluster: "Aggregation of relatively uncommon events or diseases in space and/or in time in amounts that are believed or perceived to be greater than could be expected by chance." Source: Last, John M., ed., *A Dictionary of Epidemiology* (Oxford, U.K., 2001), p. 31-2.

[68] World Health Organization, "Summary of Probable SARS cases with onset of illness from 1 November 2002 to 31 July 2003." See http://www.who.int/csr/sars/country/table2004_04_21/en/index.html.

[69] McLean, A.R., May, R.M., Pattison, J. and Weiss, R.A., Eds., *SARS: A Case Study in Emerging Infections* (Oxford University Press, 2005), p. 31.

[70] Because of the difficulty in diagnosis, the precise number of Ontario SARS cases has been reported slightly differently at different times. The figure of 375 probable and suspect cases was given by Dr. Colin D'Cunha, then Ontario's Chief Medical Officer of Health, when he appeared before the Commission's public hearings September 29, 2003. Retrospective studies since have yielded slightly different numbers.

It was not until five weeks later, in early January 2003, that word of the disease began to spread more widely. Newspapers in Hong Kong reported on an epidemic of respiratory illness, but it was not until the end of January that Guangdong Province instituted province-wide reporting requirements for atypical pneumonia.

The world outside China did not hear of this mysterious respiratory illness until February 10, 2003, when reports began circulating on the Internet. These included an email to the WHO in Beijing describing a "strange contagious disease" that has "already left more than 100 people dead" in Guangdong Province in the space of one week. The message further describes "a 'panic' attitude, currently, where people are emptying pharmaceutical stocks of any medicine they think may protect them."[71]

At roughly the same time, ProMED-mail, an Internet-based reporting system that provides early warnings on infectious diseases, posted an email from Dr. Stephen Cunnion, a retired U.S. Navy epidemiologist living in the Washington, D.C., area. He had heard through a friend that there was sickness and fear in Guangzhou, so he asked the question on the ProMED service:

> Have you heard of an epidemic in Guangzhou? An acquaintance of mine from a teachers' [Internet] chat room lives there and reports that the hospitals there have been closed and people are dying.[72]

On February 12 health officials from Guangdong Province reported a total of 305 cases and five deaths from the new respiratory illness between November 16, 2002, and February 9, 2003. Laboratory analyses were negative for influenza viruses.[73]

The outbreak in China was not totally unknown in Canada in January and February. *Sing Tao*, a Chinese-language newspaper in Toronto, reported on it in early February and raised the possibility of a spread to Canada. It contacted Health Canada and was told the government was closely monitoring the spread of a pneumonia.[74]

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[71] WHO, Update 95 – SARS Chronology.

[72] National Advisory Committee on SARS and Public Health, Learning from SARS: Renewal of Public Health in Canada (Health Canada: October 2003), p.23-24 (Naylor Report).

[73] WHO, Update 95 – SARS Chronology

[74] *Behind the Mask*, CBC News Online, November 19, 2003

After the Canadian SARS outbreak ended, the CBC reported that surgical masks had been disappearing from the shelves of pharmacies in Vancouver's Chinese Community as early as January. It said people there had been receiving panicked telephone calls from relatives in China.

On February 14, 2003, WHO reported in its weekly newsletter that an unusual respiratory illness had killed five people in Guangdong Province since November 2002.[75] The Chinese Ministry of Health informed WHO six days later that the illness was caused by *Chlamydia pneumoniae*, a common bacterium.

In Guangzhou at this time, Dr. LJL, a 64-year-old physician and professor of nephrology at Zhongshan University, attended patients as the respiratory disease outbreak became an epidemic. It was a hectic and worrisome time for health workers in Guangzhou because, as Dr. LJL would tell medical staff in Hong Kong later, scores of doctors and nurses had become ill and he and his colleagues had begun to wear gowns and gloves for protection.[76]

The outbreak in Guangzhou was complicated by community fear, difficulty in getting important information, the newness of the disease and confusion about who would take charge of the crisis. Those complicating elements of SARS were seen again when the disease found its way to Toronto.

All over the world the problems were the same: lack of preparation, bad communication, the mystery of a new disease; at first no one knew how to diagnose it, how it spread, how to stop it, how to treat it. All over the world front-line health workers stepped into danger and all over the world governments tried desperately to manage a mysterious outbreak for which they were tragically unprepared.

Dr. LJL worked late nights at the university's No. 2 Affiliated Hospital. His nephew was getting married and he and his wife would travel to Hong Kong for the wedding. Six days before he was to leave, he came down with flu-like symptoms and treated himself with antibiotics.[77] He felt well enough to make the three-hour bus trip and on February 21 checked into the 487-room, three-star Metropole Hotel in Kowloon's tourist district. He was assigned room 911 on the ninth floor of the 19-storey hotel.

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[75] Naylor Report, p. 23.

[76] "The Metropole Mystery," *Washington Post*, May 23, 2003

[77] Hong Kong SARS Expert Committee Report, p. 18. www.sars-expertcom.gov.hk.

He arrived still feeling unwell. Unknown to anyone, including himself, when he walked through the front entrance of the hotel, he was about to spread an infectious disease, SARS, around the globe and trigger a world health emergency.

Gateway to Horror

SARS found its gateway to the world on the ninth floor of the Metropole Hotel at 45 Waterloo Road in Kowloon. The hotel is in Kowloon's busy tourist district, and is popular among visitors to Hong Kong seeking a reasonably priced, decent hotel close to shopping and other attractions. The ninth floor had 32 rooms housing a variety of visitors during the third week of February 2003, including Guangdong doctor Dr. LJL and several Canadians.[78]

One of the Canadians was a 78-year-old Toronto woman, Mrs. K, who had returned to visit her Chinese homeland with her husband. Another was a 55-year-old Vancouver man, Mr. C.

The Vancouver man and the Toronto woman both stayed on the ninth floor of the hotel.[79] Both fell ill with SARS. She transmitted it to her son when she got back to Toronto. Her son and the Vancouver man, both sick with SARS, went to hospital in Canada on March 7, one to the Vancouver General and the other to Scarborough Grace in Toronto. The Toronto case sparked an outbreak that brought Ontario to its knees. The Vancouver case resulted in very little transmission. British Columbia escaped the overwhelming outbreak that overcame Ontario. This tale of two cities is explored in detail below.

After checking in, Dr. LJL felt reasonably well, enough to shop and have dinner. His room was across from the elevators and it is assumed he walked out the door of 911 over to the elevator doors and descended to the lobby and the street. He returned to room 911 that evening and awoke the next morning with a high fever. Instead of going to his nephew's wedding, he walked to Kwong Wah Hospital, where he was admitted.

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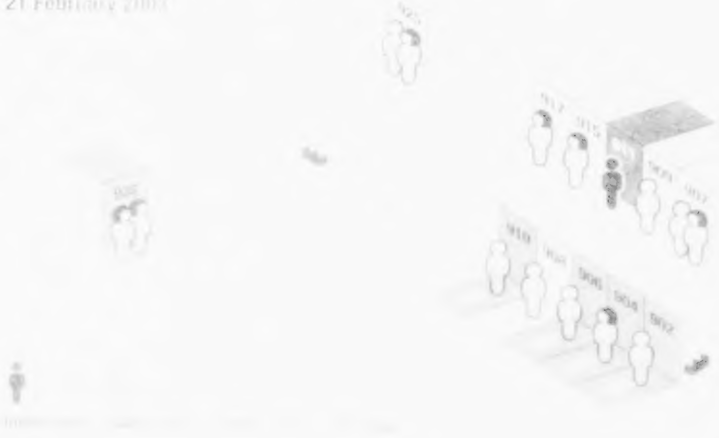
[78] *SARS: How a Global Epidemic Was Stopped*, p. 141, Published by WHO 2006.

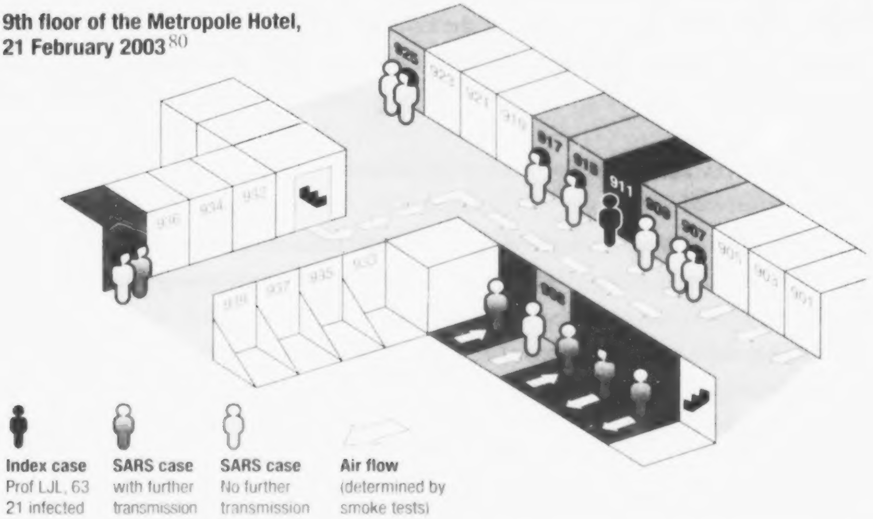
[79] Mrs. K stayed in room 904, almost across the hall from Dr. LJL in 911. Mr. CKL was in 1409 after apparently having switched from 909, although there is some confusion about that.



9th floor of the Metropole Hotel
21 February 2003

[illegible] Hospital and [illegible] SARS WHO [illegible]

[illegible] the Metropole Hotel. On [illegible]



9th floor of the Metropole Hotel, 21 February 2003[80]

925
923
921
919
917
915
911
909
907
905
903
901
936
934
932
939
937
935
933
904
Index case
Prof LJL, 63
21 infected
SARS case
with further transmission
SARS case
No further transmission
Air flow
(determined by smoke tests)

The Toronto woman, Mrs. K, arrived in Hong Kong to visit relatives February 13,[81] and stayed there at the same time as the infected doctor from Guangdong, from February 18 to February 21 or 22.[82] Dr. LJL never left Kwong Wah Hospital and died there March 4 of the respiratory disease yet to be named SARS. WHO investigations later determined that his brief stay at the Metropole began a terrible chain of infection that resulted in serious outbreaks in Hong Kong, Canada, Singapore and Vietnam. At first, no one suspected the Metropole as the point of spread.

Then, three things happened that raised suspicions about the Metropole Hotel. On March 12, eight days after Dr. LJL's death, Singapore reported three cases of the disease. Three women on a shopping trip to Hong Kong had stayed at the Metropole at the same time and on the same floor as Dr. LJL. The following day, March 13, the Hong Kong department of health learned that a Canadian man admitted to hospital in Hong Kong March 2 with respiratory distress also had been at the Metropole. On March 18 Health Canada notified Hong Kong that Mrs. K was the index case for a Canadian outbreak and that she too had been a guest at the Metropole.

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[80] Diagram is adapted from: *SARS: How a Global Epidemic Was Stopped*, p. 141, Published by WHO 2006.

[81] "Identification of Severe Acute Respiratory Syndrome in Canada," *New England Journal of Medicine*, May 15, 2003, p. 1996.

[82] There is some question about the exact dates she stayed at the Metropole. WHO lists her as being there from Feb. 18 to Feb. 23. Toronto Public Health records say Feb. 18 to 21, while an expert paper presented to the Hong Kong SARS Commission says Feb. 18 to 22. There appears, however, to be no dispute that Mrs. K and Dr. LJL were in the hotel at the same time.

The Hong Kong health department now had seven cases of the new disease linked to the ninth floor of the Metropole. Later investigation revealed that 16 guests at the Metropole, and one hotel visitor, had caught the disease from Dr. LJL.

Three years and many investigations later, it is still not known how SARS was spread at the Metropole. How could the Guangdong doctor infect 17 people at the Metropole but leave hotel staff and so many others untouched? Most of the 17 infected at the Metropole Hotel did not pass the disease to others. But four did. These four individuals ignited devastating outbreaks in Hong Kong, Toronto, Singapore and Vietnam.

This mystery remains unsolved. There are still more questions than answers. If SARS is spread primarily by droplet and is only rarely airborne, as some Ontario infection control specialists still insist, how could this one man infect 17 others with whom he had no known direct contact?

None of the investigations found the hotel's plumbing, heating, air conditioning or ventilation systems responsible for carrying the disease. The contamination occurred in one wing of the ninth floor and never moved up or down the building or endangered people in their rooms.[83]

There is speculation that Dr. LJL might have coughed or vomited in the corridor near the elevator or his room, leaving the disease there for other ninth-floor guests to walk through. A WHO investigation, conducted by four experts from Health Canada, concluded:

> The investigation favours a contamination in the corridor that subsequently exposed several of the guests either by walking by the contaminated area or by opening their guest room entrance doors. It is interesting to note that genetic material could still be detected after more than two months since the incident and after a disinfection of the rooms and corridor.[84]

However the disease spread in the Metropole, its transmission was remarkable.

Mr. JC in room 910 carried the virus to Hanoi, setting off an outbreak of 63 cases there. The three Singapore women in Rooms 915 and 938 all were hospitalized within a day of each other, two in the same hospital. Two of them did not transmit the

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83. *SARS: How A Global Epidemic Was Stopped.*

84. Final report Metropole Hotel WHO Environmental Investigation, July 2003.

disease to anyone else. Yet one of them did and sparked an outbreak of 238 Singapore cases, 195 with a contact history to her.[85]

Mr. AC, a Canadian in room 902, was hospitalized in St. Paul's Hong Kong, and nine people he had contact with there caught the disease.

An outbreak at Prince of Wales Hospital in Hong Kong was traced to the 17th person infected at the Metropole, a visitor who walked past room 911 to visit a friend in 906. A total of 143 of his contacts were infected.

Others who contracted the disease on the ninth floor of the Metropole did not transmit the disease. They had symptoms and many contacts, but did not pass the disease on to others.

These remarkable stories show the volatile, unpredictable, dangerous and still mysterious nature of SARS. Some got it from the index case and some did not. Some transmitted it to others and some did not. Some sparked international outbreaks that brought entire countries and provinces to their knees. Yet there are still no clear answers as to how and why it spread in and from the flashpoint at the Metropole Hotel. The story of the Metropole Hotel is a cautionary tale to everyone, however expert they may be, who thinks that science has all the answers to the spread of SARS. The WHO, in its 2006 report *SARS: How a Global Epidemic Was Stopped*, asks:

> Was it because their infection was milder and they had fewer contacts? … Perhaps some people, even though infected, are not infectious.

Mrs. K flew back to Canada and passed the disease on to five family members, becoming the index case for the first Canadian cluster of 136 cases and the outbreak that killed 44 and left more than 330 ill.

SARS Arrives in Toronto

Mrs. K returned to her Scarborough home on February 23 after her 10 days in China, including the stay at the Metropole Hotel in Kowloon. There is no evidence to indicate she was ill, and as far as is known, no one on the large passenger jet bringing her home became ill with SARS, which raises more questions about how SARS is spread.

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[85] *SARS: How A Global Epidemic Was Stopped.*

She settled back into the apartment that she shared with her husband, two grown sons, daughter-in-law and a five-month-old grandson. Two days after her return she developed a high fever. When the fever did not leave and was joined by muscle aches and a dry cough, she saw her family doctor on February 28.[86] She was prescribed antibiotics and her family tried to treat and comfort her.

Mrs. K's condition did not improve with the care and antibiotics. Her condition weakened and she died in her home on March 5. Her family did not want an autopsy, nor did the coroner. A heart attack was listed as the cause on her death certificate. There was no apparent reason to suspect anything else. Mrs. K had a history of heart problems, plus diabetes. SARS was not identified or named as a new disease until later that month. Her case was not uncommon among elderly people: heart disease, diabetes and pneumonia. No one suspected that a deadly new virus was spreading in the family apartment. Five of the 11 members of Mrs. K's family became ill with SARS.[87] Two, including Mrs. K, died.

The disease later identified as SARS was introduced to Scarborough Grace Hospital, the first hospital in Ontario to admit a SARS case, on March 7, 2003, when Mrs. K's son, Mr. T, was taken to hospital via ambulance. Doctors and nurses at the Scarborough Grace were unaware of what was happening in Hong Kong and unaware Mr. T had been exposed to a new infectious disease. As Mr. T remained in hospital, seriously ill, other family members were also falling ill. On March 13, SARS took the life of Mr. T and sent four more family members to hospital. Public health and hospital officials struggled to understand this new and deadly disease. The story of the T family and the introduction and spread of SARS at the Scarborough Grace Hospital is told below.

In a remarkable coincidence, another potential SARS nightmare was developing on exactly the same day in Vancouver. Three to four hours before Mr. T was taken by ambulance to Scarborough Grace, Mr. C and his wife returned home to Vancouver from Asia. He was so ill that they went directly from the airport to their doctor, who sent him by ambulance to the emergency department of Vancouver General. He, like Mrs. K, had been a guest at the Metropole Hotel in Kowloon. Also like her he carried SARS from the Metropole. However, unlike in Toronto, SARS did not spread in Vancouver. The reasons are examined later in this report under the section titled Vancouver: A Tale of Two Cities.

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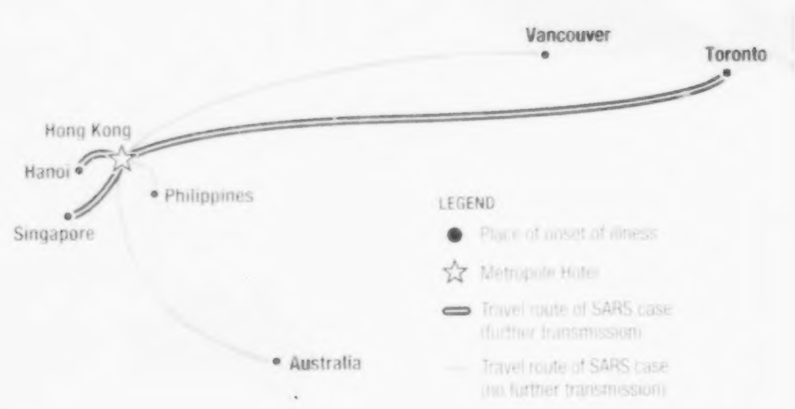
[86] Naylor Report, p. 25.

[87] Health Canada, http://www.phac-aspc.gc.ca/sars-sras/pef-dep/gta-20030424_e.html.

With Mr. T's arrival at Scarborough Grace, SARS was ready to invade the Toronto hospital system and the general community. It had its first firm foothold in Ontario. The next chapters show the lightning spread of SARS from Mr. T.

Spread of virus from the Metropole Hotel[88]


Vancouver
Toronto
Hong Kong
Hanoi
Singapore
Philippines
Australia
LEGEND
● Place of onset of illness
☆ Metropole Hotel
Travel route of SARS case (further transmission)
Travel route of SARS case (no further transmission)

HANOI	SINGAPORE	HONG KONG	TORONTO
Mr JC, 47	Mr EM, 22	Mr CT, 26	Ms KSC, 78
Number infected:	**Number infected:**	**Number infected:**	**Number infected:**
~20 directly	21 directly	143 directly	4 directly
63 indirectly	195 indirectly		136 indirectly
		Mr AC, 72	
		Number infected:	
		0 directly	

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[88] Diagram is adapted from *SARS: How a Global Epidemic Was Stopped*, p. 146, Published by WHO 2006.

With Mr. T's arrival at Scarborough Grace, SARS was ready to invade the Toronto hospital system and the general community. It had its first firm foothold in Ontario. The next chapters show the lightning spread of SARS from Mr. T.

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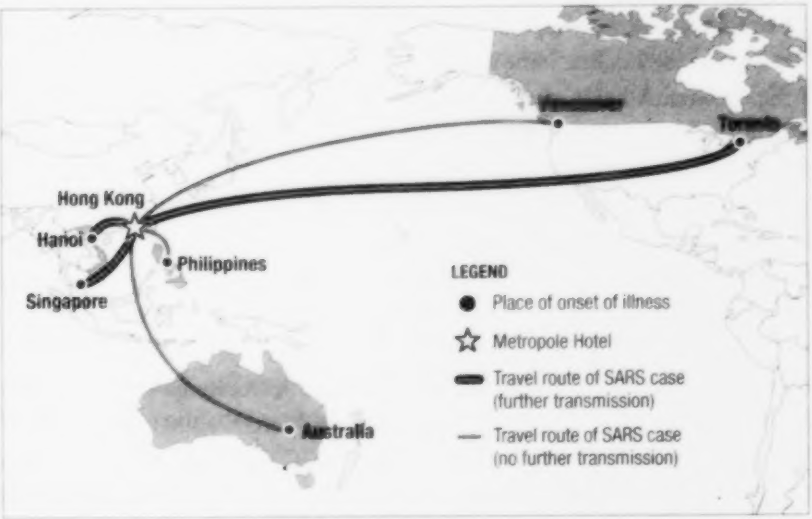
Vancouver
Toronto
Hong Kong
Hanoi
Philippines
Singapore
Australia
LEGEND
● Place of onset of illness
☆ Metropole Hotel
Travel route of SARS case (further transmission)
Travel route of SARS case (no further transmission)

HANOI	SINGAPORE	HONG KONG	TORONTO
Mr JC, 47 **Number infected:** >20 directly 63 indirectly	Ms EM, 22 **Number infected:** 21 directly 195 indirectly	Mr CT, 26 **Number infected:** 143 directly Mr AC, 72 **Number infected:** 9 directly	Ms KSC, 78 **Number infected:** 4 directly 136 indirectly

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[88] Diagram is adapted from: *SARS: How a Global Epidemic Was Stopped*, p. 146, Published by WHO 2006.

The Disaster Unfolds

SARS Comes to Scarborough Grace

In March 2003, Scarborough Grace Hospital[89] became the first hospital in Ontario to be struck with SARS and the flashpoint from which it spread quickly through the hospital system. After the first patient arrived at the Grace Hospital on March 7, 2003, until the outbreak was contained in July 2003, 375 people became ill with SARS, 44 of them dying. Of those who became ill, 257 were associated with the outbreak at the Scarborough Grace Hospital, which became known as SARS I.[90]

The Grace Division, now part of the Scarborough Hospital, was formerly a Salvation Army hospital. The hospital services an ethnically diverse community, including a large Chinese-Canadian community, many of whom maintained close ties to China and Hong Kong.

Among such families was the T family.[91] The matriarch of the family, Mrs. K, was exposed to SARS while she was a guest at the Metropole Hotel in Hong Kong, between February 18 and 21. Mrs. K became ill on February 27, 2003, after she had returned home to Canada. She died at home on March 5, 2003. Her story is told earlier in this report.

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[89] The Scarborough Grace Hospital is located at 3030 Birchmount Road, in the City of Toronto. In 1988, it amalgamated with the Scarborough General Hospital, and is now part of the Scarborough Hospital. Canada's largest urban community hospital, it employs approximately 3,700 staff, more than 700 physicians and over 1,100 volunteers. It has an annual budget of $236 million and a 650-bed capacity. Source: The Scarborough Hospital website.

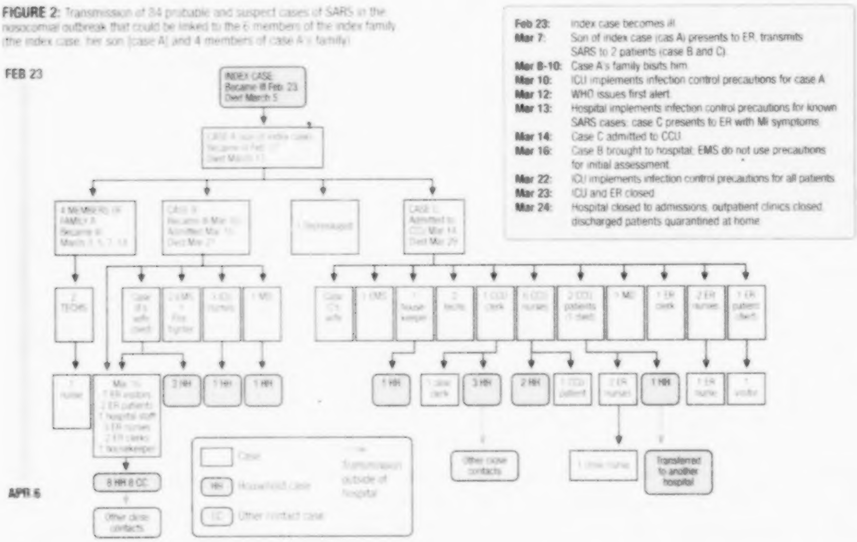
[90] The outbreak at Scarborough Grace Hospital became known as SARS I, while the subsequent outbreak at North York General became known as SARS II. For many this was a misnomer, as it suggested two separate outbreaks, each with a distinct beginning and end. In reality there is no clear dividing line to demarcate two separate outbreaks. SARS never left. SARS simmered throughout North York General Hospital during April and May until precautions began to be relaxed commencing on May 7. At that point it began to spread, leading to widespread infection in the hospital and resulting in the closure of North York General Hospital on May 23, 2003. The story of the outbreak at North York General Hospital is told later in this report.

[91] Although the initials of other patients have been changed, because the T family were named in the press and their story has been widely reported, the initial of their name is used throughout this report.

Mrs. K's family (the T family) were exposed to SARS through their contact with her. As March unfolded, five other family members became ill. Mrs. K's son, Mr. T, was the first to become seriously ill, entering the Grace Hospital on Friday, March 7, 2003, via the emergency department.

Unaware that Mr. T was ill with anything other than pneumonia, emergency room staff did not isolate Mr. T and did not use precautions. Mr. T was isolated almost 21 hours[92] after his arrival at hospital, when intensive care unit (ICU) staff began to suspect that he might have tuberculosis. But during that initial 21 hours, patients and staff were exposed to SARS, and some later spread the disease to others. The following chart[93] shows the explosive nature of this spread.

FIGURE 2: Transmission of 34 probable and suspect cases of SARS in the nosocomial outbreak that could be linked to the 6 members of the index family (the index case, her son [case A] and 4 members of case A's family)


FEB 23
INDEX CASE
Became ill Feb. 23
Died March 5
CASE A (son of index case)
Became ill Feb. 27
Died March 13
4 MEMBERS OF FAMILY A
Became ill
March 3, 5, 7, 13
CASE B
Became ill Mar. 10
Admitted Mar. 16
Died Mar. 21
1 Technologist
CASE C
Admitted to
CCU Mar 14
Died Mar 29
2 TECHS
Case B's wife (died)
2 EMS + Fire fighter
3 ICU nurses
1 MD
Case C's wife
1 EMS
1 house keeper
2 techs
1 CCU clerk
6 CCU nurses
2 CCU patients (1 died)
1 MD
1 ER clerk
2 ER nurses
1 ER patient (died)
1 nurse
Mar 16:
1 ER visitors
2 ER patients
1 hospital staff
3 ER nurses
2 ER clerks
1 housekeeper
3 HH
1 HH
1 HH
1 HH
1 clear clerk
3 HH
2 HH
1 CCU patient
2 ER nurses
1 HH
1 ER nurse
1 visitor
8 HH 8 CC
Other close contacts
Other close contacts
1 clinic nurse
Transferred to another hospital
APR 6
Case
HH Household case
CC Other contact case
Transmission outside of hospital

Feb 23: Index case becomes ill
Mar 7: Son of index case (cas A) presents to ER, transmits SARS to 2 patients (case B and C)
Mar 8-10: Case A's family bisits him
Mar 10: ICU implements infection control precautions for case A
Mar 12: WHO issues first alert
Mar 13: Hospital implements infection control precautions for known SARS cases: case C presents to ER with MI symptoms
Mar 14: Case C admitted to CCU
Mar 16: Case B brought to hospital: EMS do not use precautions for initial assessment
Mar 22: ICU implements infection control precautions for all patients
Mar 23: ICU and ER closed
Mar 24: Hospital closed to admissions, outpatient clinics closed discharged patients quarantined at home

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92. Time estimates between his admission to hospital and his isolation vary. Mr. T was triaged in the emergency department at 7:00 p.m., and admitted to the emergency department at 7:45 p.m., on March 7, 2003. Mr. T was moved to a medical floor, 4D, at approximately 12:00 noon on March 8th. He was transferred to the ICU at approximately 3 p.m. on March 8. As will be seen below, Dr. Finklestein, the physician who isolated Mr. T, recalled that at approximately 4:00–4:45 p.m., he saw Mr. T and that initial steps were taken to isolate him. Public Health records report that Mr. T was moved to a negative pressure room at 6:45 p.m. on March 8, 2003. It is the approximately 21 hours, between 7:45 p.m. on Friday, March 7 and 4:00 p.m. on Saturday, March 8, when initial isolation steps were taken, that the Commission uses in this report. The time between admission and isolation in a proper negative pressure room is 23 hours.
93. Varia et al., "Investigation of a nosocomial outbreak of SARS".

By Thursday, March 13, tuberculosis tests had come back negative and Mr. T's deterioration as well as the declining health of his family members, combined with the travel history of the T family matriarch, Mrs. K, led to the realization that this was likely the atypical pneumonia transmitted from Hong Kong. The name "SARS" had not yet been coined.

In the days that followed, public health officials, infectious disease experts from across the city, and physicians and infection control staff at Scarborough Grace Hospital tried to learn as much as they could about this new, unknown disease. In the meantime, the number of cases and contacts grew. By March 16, Toronto Public Health (TPH) had identified 500 possible contacts for the T family alone. Within a week it became clear that the disease had spread beyond the T family, to other patients, visitors and staff. By March 25 the number of possible SARS contacts had grown to 5,000, and it would continue to grow in the weeks that followed.

As cases began to spread to other hospitals, through patient transfers or through the admission of exposed contacts, the scope of the outbreak became impossible to identify. Because no one knew where all the cases and contacts were, sources of possible exposure were unknown and unlimited.

On Wednesday, March 26, Premier Ernie Eves declared a provincial emergency. It was the first provincially declared public health emergency in the history of Ontario. As a result of the declaration of emergency, hospitals were directed to institute their Code Orange status, an emergency status that severely curtailed hospital activities, visitors and patient care.

The following chart highlights the key dates to remember as the story of the first phase of SARS is told:

DATE	EVENT
February 20	• Alert to all Ontario Hospitals for H5N1 • In Toronto, TPH provides information re: events in Hong Kong and H5N1 to members of Toronto Pandemic Influenza Steering Committee (list includes some ID [infectious disease] and ER [emergency room] doctors in Toronto but not all)
March 5	• Mrs. K dies at home – cause of death: congestive heart failure
March 6	• T family members become ill
March 7	• Mr. T is seen at Scarborough Grace Hospital (SGH) emerg – diagnosis: community acquired pneumonia • While in emerg, two patients, Mr. M and Mr. H are in the same room as Mr. T – these two patients contract SARS
March 8	• Funeral Services are held for Mrs. K • Mr. T is moved to the ICU at SG Hospital • Mr. T is seen by Dr. Finklestein – TB [tuberculosis] suspected • Mr. T is isolated and staff begin to use precautions
March 9	• Rest of T family seen by Dr. Finklestein – x-rayed and sent home to isolate selves • Dr. Finklestein reports possible TB cases to TPH
March 10	• TPH commences TB investigation
March 11	• 1st TB test comes back negative
March 12	• WHO issues alert about atypical pneumonia outbreak
March 13	• 2nd TB test comes back negative – diagnosis of TB is revoked • Mr. T dies • Dr. Finklestein contacts Dr. McGeer – discusses possible connection to outbreak in Hong Kong • Other T family members admitted in isolation, to hospitals across the GTA • Mr. H is readmitted to Scarborough Grace Hospital to the CCU [coronary care unit]
March 14	• Letter sent from Ministry of Health and Long-Term Care (MOHLTC) to all physicians in Ontario

	• MOHLTC and TPH issue press releases re: atypical pneumonia cases and hold press conference to inform public • Dr. Bonnie Henry, TPH, interviews Ms. T and obtains details of family's health history and contact history
March 15	• WHO issues travel advisory re: SARS • First time word SARS is used in public communication
March 16	• Mr. M is taken to Scarborough Grace Hospital • Mrs. M who is also ill, exposes other patients and staff in the emerg dept • Mr. H is transfered to York Central Hopsital
March 17	• Mr. M is intubated – three nurses and physician later develop symptoms
March 21	• Mr. M dies
March 22	• Mrs. M is assessed for SARS – is admitted to Mount Sinai Hospital
March 23	• TPH investigation concludes that widespread transmission of SARS to SGH staff has occurred – recommends closing hospital • Ill staff are brought in for assessment • West Park Hospital opens unit to care for ill staff • Emergency Department and ICU are closed at SGH
March 25	• Scarborough Grace Hospital closes
March 26	• Declaration of Provincial Emergency
March 28	• Outbreak at York Central Hospital is identified and hospital is closed

For the health care system SARS was a wake-up call on many levels. It was a call to be more vigilant for infectious diseases, to be better prepared to respond to health emergencies, to better protect health workers and to better communicate at all levels, between all parties. For health workers, it was a terrifying period, filled with confusion, uncertainty, anxiety and fear. For those who continued to work during SARS on the front lines of our health system, SARS brought out the best of their courage and commitment to helping others. But for those who became ill, especially those who lost loved ones to SARS, the wake-up call and the lessons from SARS came at a terrible price, and nothing can ever replace or repair the suffering and loss of the victims of SARS.

Before beginning the story of Mr. T and his family, it is important to put the time and the situation in context, to understand and appreciate the environment in which doctors and care providers in 2003 were operating which had implications for his case management. As noted at the outset of this report, it is important to acknowledge that everything is clear now with the benefit of hindsight but that doctors, health workers, hospital management, Public Health and others, did not have the benefit of knowing all that we now know, post-SARS. While it does not detract from the importance of examining the events and looking back to help us move forward, to better prepare for the next outbreak, it does require that the story be read without judgment and without blame. More so than any other stories of SARS, those at the Scarborough Grace Hospital and those involved in the investigation of the outbreak at Scarborough Grace Hospital were literally learning about the disease as every day of the outbreak passed and in the early part of the outbreak were having to make decisions based on little knowledge and without a full understanding of the severity of the situation.

Notification About Developing Events in China and Hong Kong

Between November 2002 and February 2003, there were rumblings in the Chinese media about the possibility of a bird flu in various provinces of China. The rumblings gained credibility and attracted international concern when, on February 11, the World Health Organization issued an alert in respect of a mysterious acute respiratory disease in China. Subsequent alerts were issued on February 12 and 14.[94]

As the alerts came to the attention of Ontario officials and local public health officials, efforts were made to communicate information to hospitals and infectious disease specialists in Toronto. However, because the Province and local health units lacked the ability to communicate with front-line physicians in Ontario, the alerts reached only a select few. Front-line physicians in Ontario, including physicians in family clinics and emergency departments, along with emergency medical services, would be the first line of defence for an infectious patient entering the health care system. But they were not informed about developing events in Hong Kong and China and were not alert to the possibility of such a case appearing in Canada.

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[94] The World Health Organization issued alerts on February 11, 12, 14, and 20 (this is a reference to early alerts only and not to the many other alerts issued by the WHO throughout the course of the SARS outbreak).

On February 19, 2003, during a conference call with Canada's Pandemic Influenza Committee, Health Canada recommended that all provinces go on heightened alert for the avian flu, which was also occurring in China at the same time. That day, the Public Health Branch of the Ministry of Health and Long-Term Care sent an alert to local medical officers of health advising them of identification of influenza (H5N1) in Hong Kong, considered pandemic phase I (a novel virus detected in the community, little or no immunity in general population) and requesting that when they do follow-up in local influenza cases, they elicit travel history.

On February 20, 2003, the Public Health Branch of the Ministry of Health and Long-Term Care, through the Ontario Hospitals Association, relayed to all hospitals the National Pandemic Influenza Committee alert in respect of H5N1. It also sent a memorandum to all local medical officers of health providing a template letter drafted by the Public Health Branch to be sent to all emergency room physicians. The letter was to alert physicians to the developing situation and to request increased vigilance for recognition and prompt investigation of any influenza cases with unexpected outcomes. This correspondence did not reach all Toronto-area emergency room physicians. Few physicians interviewed by the Commission were aware of this correspondence and many cited the media as their first source of awareness of the atypical pneumonia outbreak in Hong Kong and China.

Also on February 20, 2003, Dr. Bonnie Henry, a Toronto Public Health physician and Associate Medical Officer of Health, distributed an email to members of the City of Toronto Pandemic Influenza Steering Committee. Included in the email list were infectious disease specialists and other physicians who were part of this group. The email advised them of a Level 1 Pandemic Influenza alert. The email further advised that a child and father in Hong Kong had been identified with a novel H5N1 influenza virus and requested that hospital physicians be on alert for severe cases of influenza, particularly in otherwise healthy people. The email provided:

> As of 19 February the World Health Organization (WHO) has confirmed reports of the presence of an avian influenza virus in a child in Hong Kong. Tests conducted on two samples from this single patient have identified the virus as the influenza A(H5N1) strain. A similar virus caused an outbreak in Hong Kong in 1997, with 18 cases detected and six deaths.
>
> In the current outbreak, a 9-year-old boy, who visited the Fujian Province (China) in January with his mother and his two sisters, became ill on February 9 and was admitted to a Hong Kong hospital on February 12.

> He has recovered and is in stable condition. Other members of his family presented with a similar illness. The child's sister and father have died. The boy's mother was ill but has recovered.
>
> Today it was reported the boy's father was also infected with influenza A(H5N1). A medical and epidemiological investigation is ongoing in Hong Kong to determine the cause of those illnesses. Results should be available in the next few days. Investigations are ongoing to determine the source of the infection.
>
> The World Health Organization (WHO) is collaborating closely with health authorities in Hong Kong and China in investigating the outbreak. The WHO Global Influenza Surveillance network has been alerted. Source: http://www.who.int/csr/don/2003 2 19/en/
>
> Health Canada is also monitoring this situation through ongoing communication with the World Health Organization as well as with the provincial governments. To date, there have been no reports of other human cases of this novel strain of influenza from anywhere else in the world.
>
> Toronto Public Health is requesting increased vigilance in surveillance of influenza-like illness [ILI], particularly for any unexpected outcomes (e.g. unusually severe ILI or death in otherwise healthy individuals or severe ILI in young healthy individuals). Please look out for any unusually severe cases of ILI and query any recent travel to Hong Kong or China. We recommended that clinical samples should be taken from such cases for viral culture (nasopharyngeal swabs are preferred). Please make a notation of positive travel history (recent return from Hong Kong, China or elsewhere in Asia) or other notation of increased suspicion (hospitalization, death) as a comment on the laboratory requisition form.[95]

Dr. Bonnie Henry described for the Commission efforts she made, on behalf of Toronto Public Health, to alert local infectious disease specialists and emergency departments about the developments in China and Hong Kong:

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[95] Email from Dr. Bonnie Henry, Associate Medical Officer of Health, Toronto Public Health, to ID [infectious disease] Drs Group, February 20, 2003, 4:21 p.m., Subject: Alert and Response to Identification of H5N1 Influenza in a child, Hong Kong.

> There were two alerts, not about the atypical pneumonia, the third one was about the atypical pneumonia. The first ones were about a family cluster of influenza which was thought to be what's circulating now, the bird flu issue, in a family from Hong Kong who had gone to visit relatives in Guangdong Province. The daughter got ill and died in Guangdong but was not tested. The father and son both got ill in Hong Kong and were found to have H5N1 influenza. So I sent out the alerts about that … and then I sent out a little more information about this atypical pneumonia cluster that had been reported showing up in Guangdong Province. At the time they had said they were 300 cases and 5 deaths and it was due to *Chlamydia pneumoniae* and my comment that I had put on that was, this would be an unusual type of outbreak for *Chlamydia pneumoniae*, but they tell us that this outbreak is over and there is nothing else going on. However we need to be vigilant, and the bottom line for both of these were to make sure that we are careful to look for people who come to hospital with a respiratory illness and ask about travel.

But these alerts went to only a specific list of physicians, as Toronto Public Health lacked the capabilities to communicate directly with front-line physicians and health providers in Toronto. Dr. Henry described the mailout list for these early alerts to the Commission as an initiative by Toronto Public Health, with the help of outside infectious disease experts such as Dr. McGeer, to improve communications between the hospitals and Public Health:

Question:	Did all three notices that you sent out go to the same people?
Dr. Henry:	Yes they did.
Question:	And, and the list of people … ?
Dr. Henry:	The list of people included all of the medical microbiologists, the infectious disease physicians, emergency department heads of the hospitals in Toronto, and it was the list that was compiled for us maybe a year before. Dr. Allison McGeer had helped us pull it together, mostly to help us foster communication around communicable disease issues, with the hospital physicians, because people needed to be kept in the loop around things, and we were finding it difficult to

communicate. Actually it was after the West Nile virus issues … so we tried to foster the communication by having this email list where we sent things out periodically about what we were seeing happening, and it was a way for them to send information to us and we actually had some discussions about things. Dr. Barbara Yaffe actually was the initial person who had the list, and she used it, and we used it on her behalf on a couple of occasions.

Question: How many people, roughly, would you know?

Dr. Henry: Were on the list?

Question: Yes.

Dr. Henry: Maybe, maybe 30 or 40.

Dr. Henry told the Commission that even before SARS, Toronto Public Health had been trying to foster relationships and improve communication with Toronto-area hospitals:

> It [the email contact list] was a two-way thing, it was a way for them to communicate with us, because we had been trying, [Dr.] Barbara Yaffe particularly, myself and the other communicable disease physicians, had been trying to foster a better relationship with our hospital counterparts, after the things that had happened and, particularly, anthrax and people going into hospitals, and being able to make sure that they understood what we felt were the community risks and vice-versa. So we had used it [the email list] for a variety of things prior to that. We had also done things like, we would try and attend the monthly rounds that medical microbiologists had so that we could exchange information, so we were making a concerted effort to try and increase our connectivity, as it were with the hospitals, and World Youth Day was a big help on that because we made a lot of contacts with the emergency department heads particularly, the emergency department chiefs and worked with them in the surveillance system, so it helped them understand who we were, and it helped [us] understand who they were.

The problem was that the initiative and efforts of Toronto Public Health and a group of physicians did not amount to broad-based communication that reached all front-line health providers. Despite the communication efforts of Dr. Henry, emergency room staff, family physicians, infection control practitioners and infectious disease specialists across Ontario were not informed as none of these alerts were broadly disseminated to the front lines of the medical community.

It reflects poorly on the level of preparedness in Ontario that there was no system for broad-based communication with Ontario's physicians. As will be seen below, even when the Ministry attempted to communicate with Ontario's physicians, had no timely means to do so.

The inability to communicate quickly and effectively with front-line physicians was critical, because, as will be seen below, when the first patient entered the health care system, at the Scarborough Grace Hospital, staff and doctors did not know to ask about travel history and were not alert to the possibility of a new infectious disease. Even when this patient was known to have had contact with a person who had recently travelled to Hong Kong and China and who had subsequently also become ill and died, even when the patient's condition rapidly deteriorated, doctors and staff did not suspect that they were dealing with a new infectious disease because they did not know about the events in Hong Kong, China and elsewhere in Asia.

As one health worker who dealt with this first patient, Mr. T, on March 7 when he entered the emergency department at Scarborough Grace Hospital told the Commission:

> SARS took us by surprise, yet it had already happened in China and we were kept in the dark. That was a fatal mistake. Nurses and doctors were not aware of it. If we had known about it they would have been asking him [Mr. T] the proper questions and the case would have been contained right away. The fact that it was unknown to us but not unknown to rest of world … Had we known about it, he would have been questioned more about his illness.

The emergency room physician who saw Mr. T, the first SARS case to enter hospital in Ontario, had also not received any information or alerts about events happening in China or Hong Kong. As he told the Commission:

Question: Had you received any notification from any level of government or any officials about events in China?

Answer: No. No. I did not.

Dr. Sandy Finklestein, an intensive care specialist at the Scarborough Grace Hospital and the physician who took over caring for Mr. T, had also not heard about events in Hong Kong and China. As he told the Commission:

Question: There were a couple of alerts, one as early as February, from either Public Health or Ministry of Health, raising the fact that there was an outbreak of atypical pneumonia in China, did that ever come to your attention?

Dr. Finklestein: It didn't filter down to me, I can't say about doctors in general, but it didn't filter down to me.

Question: There was another one in early March from the Ministry of Health but in any event the first information you got about it came from …

Dr. Finklestein: Through back channel …

Question: Through Agnes Wong?

Dr. Finklestein: Yes. And also I should mention, to protect my good friend Dr. [David] Rose, I believe he was on vacation, and backup infectious disease consultations, I can't even remember who was doing them then, but I do remember at some point during that first week, I called up David, I knew where he was, and I asked him for some advice and I can't remember the question or maybe he said, call [Dr.] Allison McGeer, it was on Thursday the 13th.

One of the physicians who became ill as a result of his involvement with one of the early SARS cases remarked on this lack of communication:

> There wasn't any communication to the workers in the fields such as myself about the potential danger. I think early communication would have been very helpful particularly warnings about recent travel, people arriving from the suspect area.

The problem was not that no one thought to tell front line physicians, it was that there was no system for quick, effective communication with physicians in Ontario. As Dr. David Rose, the infectious disease specialist at the Scarborough Hospital, said:

> I think the first thing that went wrong was that there wasn't and isn't a system wherein front-line practitioners can be apprised of a situation reliably so that they have it on their radar when they see an individual patient. I'll give you an alternative example, we had an infection control meeting last week and the public health individuals on our committee spoke about an outbreak of measles in Germany. We said, okay, let's make sure that the manager in emerg and the chief of the emerg department knows that this has happened so that we hope they will pass that information along. It is not a part of Germany where there are any World Cup games being played but between games they may go and visit, there are games being played in that province, not in that particular area of that province, but who knows, maybe tourists, visitors are coming back from the games who have been in a measles area. So, we need to know that. It's a bit catch as catch can. We don't meet every week, we don't meet every day, we meet once a month, and if the person from Public Health wasn't there or got cut off or we didn't have time to deal with her report maybe we wouldn't find this out.
>
> I don't think we are alone in this but I don't think there is a system whereby every alert can be gauged or evaluated. And even if somebody was assigned to read these alerts or be the recipient of them, it would still be a judgment call in terms of, do I need to let people know this. If it was somewhere sufficiently remote, or the person made the judgment that this is not, the outbreak of measles is not in the World Cup city, it's not going to affect us. So, we made a different judgment but again, were we right or wrong, I don't know that. And there is way too much information for all of that to become high priority, you can't possibly make everything a high priority. So, that was one thing that was a fault that I don't know how to address. I don't think it has been fixed …

Dr. Barbara Yaffe told the Commission that the problem was that Public Health lacked, and still lacks, the ability to communicate quickly and effectively with Ontario's physicians:

Question:	There are lots of front-line physicians who say they never heard of it, they never heard of anything. And some of them have stories, about the volume of information they get inundated with. Was there, at that time, in place any kind of reasonable system that could get information out to front-line physicians not just the ID specialists … ?
Dr. Yaffe:	Family doctors …
Question:	Yes.
Dr. Yaffe:	No, there was not and there still isn't. I can speak to that at great length if you wish, because this is something that has been a real bone of contention for me, certainly since amalgamation if not before. I have been working on this a lot. There are approximately 9,700 physicians licensed to practice medicine in the City of Toronto. So, it is a large group, a very diverse group, a lot of them are independent practitioners, they are running a business, and although they are licensed and they are obviously compensated through OHIP [the Ontario Health Insurance Plan], primarily, it is a very difficult group to reach. I have tried to work through the OMA [Ontario Medical Association], they have a list … They will send information out if they approve it first and if we pay them. So it's not terribly timely at all, because they have a fax list, a mailing list and so on, so that is not very timely. We do have a fax list for maybe two-thirds of the physicians in Toronto, and on occasion we have faxed things out, but it takes, because of our technology, two to three days to get them all. And it's a machine that just sends things out. So if you have the kind of fax machine where somebody has to call first and say, turn on the fax machine, which many physicians do, believe it or not, the machine is not

> going to call and say, please turn on the fax machine, so we'll get a busy signal, so, it won't go. Or sometimes people have given out the fax number of their personal home. So, unfortunately the fax machine would ring at three in the morning beside their bed. So, then they call the next day they would call and complain, you woke me up with your fax. They'd get very few saying, thank you so much for giving me this information …

Three years after SARS, it is a problem that remains. As Dr. Yaffe told the Commission:

> In early April of this year [2006] or maybe it was March, I got so fed up, I said, okay, I am sending a letter to every physician in Toronto because we are now doing pandemic flu preparedness, as you know, and saying we need to be able to contact you in an emergency, give me your email, if you don't have an email, give me your fax. And we got a 22 per cent response rate and of those 22 per cent, well, the bottom line is at this point we've updated our database, we now have email addresses for 10 per cent of the physicians in Toronto. We have fax numbers for most of the rest of them, and regular mail for 10 per cent. So, it's a great frustration.

To the credit of Toronto Public Health, it has been making efforts to try to work the best it can to communicate with physicians, but it is an ongoing frustration. As Dr. Yaffe told the Commission:

> The other thing we have been doing, I started post-amalgamation, I don't remember if it was 1999 or 2000, a newsletter for physicians. It goes to every physician, I think we didn't include anaesthetists and pathologists, but all the family doctors and specialists were on that. A quarterly newsletter on communicable disease matters, it's called *Communique*. We are going to evaluate it. But I don't know how many of them read it. They get a lot of mail and we try to make it short and snappy, and relevant and all those things, but a lot of them just look at "public health," they don't differentiate local, provincial, federal, we're all government. And it is extremely frustrating.

The inability to communicate with physicians quickly and effectively during SARS became a barrier to timely and effective response throughout SARS. Critically, as will be seen below, even when it was identified that there was a case of atypical pneumonia of the kind that was causing outbreaks in parts of Asia, public health officials at both the local and provincial level, in the largest province in Canada, had no means to communicate quickly and effectively with all physicians in Ontario. So, when the first patient entered the Scarborough Grace Hospital, a busy emergency department in Canada's largest urban centre, no one was on the alert for anything suspicious and questions that might have identified concerns about the first patient sooner were not asked because no one knew to ask.

The Decline of Infection Control in Hospitals

When SARS hit in 2003, it revealed a system-wide underemphasis on and decline in infection control practices and standards. For most hospitals in Ontario, prior to SARS, infection control was not a high priority. Like public health, its critical importance went largely unrecognized until something went wrong. Infection control got attention primarily when some problem was noticed, such as the outbreak of on antibiotic-resistant disease or the need to notify patients that they may have been subjected to a procedure with poorly sterilized instruments. It was only then that the failure to invest in infection control was noticed.

As Dr. James Young, then Commissioner of Public Safety and Security, later said when he spoke at the Commission's public hearings in September 2003, when SARS hit, Ontario had a health system that did not put a premium on infection control, and the importance of infection control was a clear lesson of SARS:

> I want a health care system that puts a premium on infection control, but, as I mentioned earlier, the system didn't and it didn't for good reason. We were spending our money on other things. We have to look at what was done from the point of view of the reality of what we had to deal with. We did not have hospitals that were prepared for infection control. We did not have nurses and doctors who practised good infection control, who were used to getting in and out of gloves, and gowns and masks, who were used to working in these situations, who knew and thought infection control day in and day out. We now are building a system that has to consider those things but it did not exist and our management and our decisions were based on what we knew and what we didn't know and how to make the system as safe as possible for everyone, including health care workers.[96]

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[96] SARS Commission, Public Hearings, September 30, 2003.

The decline of infection control in Ontario's hospitals was the subject of a survey conducted in 2000, which tried to gauge the level of infection control in Ontario's hospitals. When the authors of the survey and subsequent report commenced the project, they did not know that their findings would be so clearly shown in practice and that a new infectious disease would hit Ontario and reveal the weaknesses in the system, that were well known to most infectious disease and infection control specialists.

In 2000, surveys were sent to all infection control programs in acute care hospitals in Ontario with more than 80 acute care beds.[97] The results of the study, published in August 2003, confirmed what SARS had demonstrated so dramatically. Hospital infection control was inadequate throughout Ontario. The article, by Dr. Dick Zoutman and a number of other physicians,[98] many of whom were members of the Science Committee during SARS, identified the following gaps in infection control in hospitals:

> In 1981, 88.1% of general hospitals with more than 99 beds and teaching hospitals engaged in surveillance, whereas in this survey, all but 1 respondent hospital engaged in surveillance. ICP [infection control program] staffing levels in the 1980s were considerably less than that recommended by SENIC[99] and 12% of acute care hospitals with more than 200 beds had no ICP. Although there have been improvements in the interim and all hospitals in this survey have ICPs, 40% of infection control programs had fewer ICPs than that recommended by SENIC, and 80% did not meet Canadian recommendations. In our survey, 40% of Canadian hospitals did not have physicians or doctoral professionals with infection control training who provided service to the infection control program, yet this is viewed as a key requirement of infection control

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[97] Dick E. Zoutman, B. Douglas Ford, Elizabeth Bryce, Marie Gourdeau, Ginette Hébert, Elizabeth Henderson, Shirley Paton, "The state of infection surveillance and control in Canadian acute care hospitals," *American Journal of Infection Control*, 31, no. 5 (Zoutman et al., "The state of infection surveillance and control").

[98] Zoutman et al., "The state of infection surveillance and control."

[99] SENIC is short for the Study on the Efficacy of Nosocomial Infection Control, a study conducted in the U.S. to investigate the efficacy of nosocomial infection prevent and control programmes in hospitals in the U.S. The overall plan was to assess the surveillance and control activities in hospitals in the U.S. in 1970 and 1976, to measure the change in the nosocomial infection rates from 1970 to 1976 as determined from a carefully conducted retrospective chart review, and to assess the influence of changes in these programmes on infection rates after controlling for other important changes that occurred during the interval. Taken from website of The National Library of Medicine and The National Institutes of Health.

> programs. Expert panels have recommended secretarial services for infection control programs; however, only 69% of Canadian hospitals presently have such support.
>
> There also were significant computer and reference resource deficits. One third of infection control programs did not use computers to tabulate data and prepare reports, and a majority did not use statistical software, although these resources have been judged as being essential. One fifth of programs did not have a complete set of the current Health Canada guidelines on preventing nosocomial infections in acute care hospitals.
>
> Intensive surveillance and intensive control activities were shown to be the most important factors in reducing nosocomial infections in the SENIC study. Twenty-three percent of hospitals in our survey scored less than 50 on the surveillance index, indicating they were conducting fewer than half of recommended surveillance activities. Only 13% of hospitals conducted more than 80% of recommended surveillance activities. The figures were similar for control activities, with 21% of hospitals scoring less than 50% on the control index and only 10% conducting more than 80% of recommended control activities.
>
> ICPs and physicians were found to be spending considerably less than the recommended 50% of their time devoted to infection control engaged in surveillance. Surveillance was heavily based on microbiology reports, whereas active patient and device-related clinical surveillance that is more informative was used less frequently. In some centers, surveillance was ineffective because it was not being reported to staff: only two thirds of hospitals routinely communicated surveillance data to staff and only a third reported surgical site infection data to individual surgeons. It was found in SENIC that success in reducing surgical site infection rates required reporting the rates directly to surgeons.[100]

It may in fact have been worse than this. Dr. Zoutman noted that the results of the study may have actually overestimated the resources available to hospitals:

> A limitation of this study is that the non-responding hospitals may have differed from our sample hospitals. It is possible that nonrespondents

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[100] Zoutman et al., "The state of infection surveillance and control."

> may have been unable to complete the comprehensive survey because of a lack of infection surveillance and control resources. This limitation may have resulted in an overestimation of resources available to hospitals for these activities and understated the extent of the deficits in infection surveillance and control resources that have been highlighted by this survey.[101]

The Scarborough Grace Hospital was no different from most Ontario hospitals in 2003. Although it had an infection control program, there were two and a half full-time staff dedicated to the infection control program. These two and a half positions serviced both the Scarborough Grace Hospital and the Scarborough General Hospital, with a combined 650-bed capacity. When SARS hit, the infection control staff worked tirelessly to try to educate staff, follow cases and work with Public Health to identify contacts of cases in a hospital that employed thousands of staff and had hundreds of patients. It was an enormous task. The challenge of SARS was that many of the programs and education that we now know were critical to the successful containment of SARS, such as the use of personal protective equipment and surveillance for febrile illness, and early and careful isolation of patients with febrile respiratory illness, did not exist pre-SARS and therefore had to be initiated, communicated and enforced as the outbreak unfolded.

As one nurse told the Commission, infection control staff worked very hard but things were changing daily as they learned things as they went along:

> And you know who was wonderful? Our infection control nurse responsible, and she was wonderful. She would keep us up to date and tell us about changing, and what we should be wearing, and how we should be taking this layer off and taking a layer off outside in the anteroom, very specific about what to do. It's difficult. It's a whole new ball game for us. Nobody knew what exactly was going on. Especially when things were changing, you did something this way and the next shift came on and, no, you have to do it this way now. And you think, what just happened in the prior two shifts I had worked, how much exposure did I have then? But they were learning as well.

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[101] Zoutman et al., "The state of infection surveillance and control."

For example, pre-SARS, infection disease surveillance was limited. As Dr. Rose, the infectious disease specialist at the hospital, told the Commission:

> Question: Can you describe the surveillance program that was in place at that time?
>
> Dr. Rose: It was predominately a surveillance of antibiotic resistant organisms, wound infections. To a certain extent there was surveillance of febrile illnesses, but it was minimal. There was education around infection control practices but that's not surveillance. That was most of the surveillance activity that went on.

This was certainly not unique to the Scarborough Hospital, as was identified in the Zoutman Infection Surveillance and Control Study, referenced above.

It was also not the practice in most Ontario hospitals to routinely isolate febrile illness or respiratory cases or for staff to use personal protection in such cases. Thus, as will be discussed in greater detail below, when Mr. T presented at the Scarborough Grace Hospital, he was not isolated and not handled with precautions. While SARS showed the importantce of isolation and use of protective equipment, pre-SARS it was not a routine part of patient care unless the patient was suspected of having an infectious disease such as tuberculosis. One emergency physician from North York General Hospital described how SARS changed the practice of medicine:

> SARS has changed medicine for me unbelievably. Part of that is not just me, part of it is that I am forced to be aware of it because the minute someone develops a fever with a respiratory component, we have strict orders to isolate. We are forced to examine it very carefully … There is a better knowledge of what happened. That is in itself is key because we are aware of what happened and we are more knowledgeable now. Anyone with fever and cough is isolated until you sort it out. That is number 1. If somebody has fever with no symptoms, the nurse notes it and I am notified. They could just have a urinary tract infection. Fever with respiratory illness or complaints or fever with cough are isolated. Cough without fever may not be. If you are not sure, 24/7 we have an ID [infectious diseases] team we can call for advice which the staff use. They use it wisely. Anybody who has a medication it is delivered by droplet. I had a patient who I am pretty sure we are talking about congestive heart failure, they required high concentration oxygen. Decided the O_2 was to be

> humidified. As soon as that happened the patient was put in isolation. When we intubate a patient, I have to mask and gown and glove. I still have difficulty with that. Although for the younger doctors it is like seatbelts. Anyone intubated there is three point protection … none of this was around before SARS. It is now like seatbelts. For the nurses it is now a natural reflex.

Pre-SARS, while there were ongoing education efforts by the infection control practitioners, there was no regular, mandatory formal education program. As Dr. Rose explained:

Question:	And the education you referred to, what form did that take, who got the training?
Dr. Rose:	It was both in small groups, one on one, visits to the nursing stations, discussions with staff by the infection control practitioners.
Question:	Were there formal sessions?
Dr. Rose:	Some a bit more formal than others. There was some formal education, I think, at the time, new staff were hired and after that it was on a more informal basis, but practitioners going to the wards and attending staff meetings and program group meetings, but also providing education on a small group basis.

Dr. Finklestein described the level of training for physicians on infection control prior to SARS as nonexistent:

Question:	Now was there, to your knowledge, education and training provided to health care workers that included physicians with respect to infection control?
Dr. Finklestein:	I don't think I would speak to health care workers in general. But to physicians, upon coming on the hospital and teaching there for ten years, I do not recall receiving any education in infection control nor do I remember receiving any of it during my residency.

Many health workers interviewed by the Commission, from a wide variety of health care facilities, including Scarborough Hospital, told the Commission that before SARS, the last time they received training in isolation protocols and techniques was during their professional training, which for some staff was more than 10 to 20 training on the use of protective equipment. The system-wide lack of attention to the use of personal protective equipment became evident during SARS, as hospitals suddenly became aware of provincial laws that required training and fit testing for staff using the N95 respirator. This meant that in the midst of the outbreak, hospitals had to scramble to train and fit test thousands of employees. For many health workers throughout the health care system, fit testing and training did not occur until long after the SARS outbreak was over. More will be said about masks, respirators and the use of personal protective equipment later in the report.

Ms. Glenna Raymond, the Vice-President of Patient Services at the Scarborough Hospital, who later became the CEO, described the increased knowledge about the importance of infection control, post-SARS, both in general and its impact globally:

> As far as what we really learned in the end from this, if I interpret your question, again I come back to that notion that the observation related to the dedication to health care workers and what they have contributed, the willingness of health care workers to put the needs of patients before themselves and their families. What we have learned in terms of much more specifically and scientifically about infection control, about this illness in particular, but infection control in general, and we need to be much more vigilant and aware of the global impact. I think that's a learning for all of us, that we're not just in Toronto or in Ontario, we are in fact part of a global health system, I don't think that understanding was as strong then as it is today.

Post-SARS, there have been many improvements, and the importance of infection control is well recognized. Many health workers interviewed by the Commission remarked upon the improvements at the Grace Hospital post-SARS. One nurse, who worked at multiple hospitals in Toronto, said:

> The Grace, their infection control practices have really improved. I've been to other hospitals in the last year or two and I went to [name of hospital] and there was a man there that had pneumonia. He was coughing up copious amounts of disgusting stuff and he was less than four or five feet away from the next patient. Our practice, that would not happen

> at the Grace anymore. The Grace's infection control practices are phenomenal now, compared to what they used to be.

The danger, however, is that as the memory of SARS fades, so too will the attention to infection control. That is why it is critically important that the story of SARS be told, that it not be forgotten, and that its lessons help us better prepare for the future.

Crowded Emergency Departments

As will be seen below, another factor that impacted the handling of the index case was the fact that Mr. T was not admitted to a hospital room until over 16 hours after he first entered the emergency department. During that time he stayed in the emergency department, unwell and in close proximity to other patients.

The overcrowding[102] of the emergency department at Scarborough Grace and the lack of capacity in the hospital, and at many other hospitals in Ontario, were not an unusual event. As one emergency room employee at the Grace said:

> It [the Scarborough Grace Hospital emergency department] was very, very crowded. They [patients] may be admitted but there were no beds upstairs. At that point [March 2003], I think there were sometimes two and three days, they were in emergency waiting for beds to become available.

One physician described the impact of crowded emergency rooms:

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[102] "Emergency department overcrowding" was defined by the Canadian Association of Emergency Physicians and the National Emergency Nurses Affiliation to mean:

> . . . a situation in which the demand for emergency services exceeds the ability of a department to provide quality care within acceptable time frames. ("Emergency Department Overcrowding – Position Statement, 2003)

The comments with respect to overcrowding and lack of capacity refer to bed space and admission issues, as opposed to quality and timeliness of care issue, something that is not part of the Commission's mandate and was not part of the Commission's investigation. To be clear, by using the words "overcrowding" the Commission is not suggesting that Mr. T or any of the other patients were not seen or treated in an acceptable time frame while they were in the emergency department.

> The Canadian index case, or the primary case, was the son of the index case that brought it to Canada. The spread that occurred from that person was very significant. And the reason was, which we've all forgotten in this whole affair, is that emergency departments were jam packed with admitted patients. The last government removed 1,000 beds out of the GTA [Greater Toronto Area], which means there were no inpatient beds. And what happens every single day in every single emergency department across the GTA, and it's much worse in the GTA than it is in London, in Ottawa, in fact anywhere else in the province, is that 80, 90, even 100 per cent of your emergency stretchers are taken up by inpatients. So therefore emergency patients can't be seen. Therefore, you have waiting rooms filled with people. Waiting rooms aren't exactly the most hygienic areas … People who come in to hospitals who need to be admitted are stacked in waiting rooms and hallways, anywhere in the emergency department … And I guarantee you this, until the inpatients in emergency departments are addressed, this will happen again, and it doesn't matter whether it's SARS, SARS III, a new agent, or one of the old agents that just seems to spread again.

Another physician agreed, saying that overcrowding in emergency departments in Ontario has become the norm:

> … [The index case was in emergency] with various mechanisms that actually induced the spread of the disease, including aerosol masks, and so on. The fact is that the way that that patient was treated was no different than the way patients are treated every day in emergency departments in Ontario. And it's undignified and it's unacceptable and it still continues to occur. When you have a system that is operating at 150, 120 per cent capacity, something's going to happen, and we saw that.

One of the physicians who was working the night of March 7 and observed Mr. T in the emergency department agreed that the crowding in the emergency departments was a problem and said that the bargaining of patients between hospitals is also not conducive to good infection control. As he said:

> … Part of the problem is that bed spaces are always at a premium, they're always bargaining, and then there is the other problem why it spread to other hospitals. There's never any elbow room, every bed's filled. They're always horse trading, trying to get people out, then sort of trying to send them to other hospitals. It's kind of like, bees pollinating various flowers.

> These jam-packed hospitals who are trying to bargain and trade back and forth their sickest patients, that is, from a virological point of view, a pretty bad strategy.

The overcrowding of emergency departments and hospitals in Ontario has been the subject of alarm and debate for some time. In a 2003 Position Statement, the Canadian Association of Emergency Physicians and the National Emergency Nurses Affiliation said:

> Canadian emergency departments (EDs) often deal with more sick patients than there are staffed stretchers to treat them in. Acutely ill people overflow into hallways and waiting rooms, ambulances are diverted from hospital to hospital looking for an ED that will accept incoming patients and, after arriving, ambulance attendants often cannot off-load patients onto an ED stretcher. Sick patients endure prolonged waits in ED waiting rooms and face unacceptable delays in care. ED overcrowding has been described, defined and studied for over two decades. Despite a range of initiatives and management strategies, it is worsening, and it remains the most serious issue confronting Canadian EDs. The ultimate consequence of overcrowding is a lack of access to timely and appropriate care for the sickest patients in our system – those described in Levels I, II and III of the Canadian Emergency Department Triage and Acuity Scale (CTAS) …[103]

It reflects poorly on Ontario's health care system that an ill patient whose health status warrants admission must wait over 16 hours for an available bed. In the case of Mr. T, his prolonged stay in the emergency department, which was not atypical for emergency departments in Ontario, and certainly due to no fault of the Scarborough General Hospital, resulted in him being in a relatively small area, filled to capacity, in close proximity to other patients who were also ill, for a lengthy period of time.

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[103] Canadian Association of Emergency Physicians and the National Emergency Nurses Affiliation, "Emergency Department Overcrowding Position Statement, 2003."

Hospitals and Shopping Malls

As will be seen below, as SARS spread, the challenge became to identify and contact all those persons who had been in the hospital and may have been exposed to SARS. The number of staff and patients alone was daunting, but there was an added burden of visitors, most of whom were untracked and unknown.

Many physicians and nurses interviewed by the Commission remarked on the fact that hospitals have become like shopping malls: open to the public and often quite crowded. One physician said that pre-SARS the number of visitors to the hospital was a problem:

> One of the problems with hospitals is they become almost like flea markets and bazaars. You get some little kid who comes in for ear tubes and they bring twelve people in with them. They have bake sales and junk sales in the lobbies and people come to use the food court for lunch because it's probably cheaper than the surrounding areas.

This physician told the Commission that one of the pleasant effects of SARS was the greater control over who was coming in and out of hospitals:

> The few months after SARS it was actually, I thought, one of the more pleasant times paradoxically, partly because I was alive, but also because they were much more stringent on who could come in.

Another nurse told the Commission some of the improvements post-SARS, such as tighter control over the number of visitors, have been lost:

> We're going in circles with our infection control SARS is over, people are forgetting, so they're allowing more visitors to come in again …

This is not to minimize the important role that families and friends play in supporting and caring for the ill. But during SARS, when it suddenly became necessary to identify all those persons who were in a hospital or in a particular area of a hospital, the changing landscape of hospitals made contact tracing a huge challenge. Post-SARS, it is important that infection control standards are not overcome by the need to turn hospitals into something other than a place to care for those who are ill. It is important that visitor policies are consistent and clear across the health care system and that visitors are educated about the important role they play in keeping hospitals as safe as possible, a role that includes respecting limits on the number of visitors, particularly where the illness is not serious or life-threatening.

Public Health Capacity and Resources

When SARS hit, infection control in hospitals was not the only weak line in our defence against infectious disease outbreaks. SARS hit a public health system that had been in decline for many years. As the Commission found in its first interim report:

> The decline of public health protection in Ontario began decades before SARS. No government and no political party is immune from responsibility for its neglect. As one witness observed at the public hearings:
>
> > The second concern stems from the fact that we are in an election week. I worry that members of the media who are present here today, or those on the campaign trail will use what is said today as cannon-fodder, against one political party or another. I am not wedded to any party right now, in fact, I'm troubled by all of them, but let it be clearly noted; no party, federal or provincial, no bureaucracy, federal or provincial, is any less culpable for the problems we are seeing in the healthcare system today.
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> One local Medical Officer of Health remarked that in his opinion, the general public has shown little interest in public health as well:
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> > I think that the general public has no general interest in public health until there is a specific problem [despite] the kind of wide spectrum of things that public health is supposed to be doing and trying to do with very limited resources and difficulty getting additional resources.
>
> Ontario is not alone in its neglect of the public health system. There has been a clear recognition in the past few decades of a general decline in public health capacity across Canada. Warnings of the decline in Canada's public health capacity to protect against infectious disease have been raised since the 1970's. In 1997, this problem was clearly identified by Mr. Justice Horace Krever in his report on Canada's blood system. Mr. Justice Krever recommended "that the provincial and territorial ministers

of health provide sufficient resources for public health services". He stated:

> Public health departments in many parts of Canada do not have sufficient resources to carry out their duties. They must have sufficient personnel and resources to conduct adequate surveillance of infectious diseases, to develop and implement measures to control the spread of infectious diseases, including those that are blood borne, and to communicate with other public health authorities at both the federal and the provincial-territorial levels.[104]

As Dr. Larry Erlick, President of the Ontario Medical Association, told the Commission:

> If SARS indicated one thing to the Medical Officers of Health of the Province and to the Public Health Branch itself it was that there is insufficient capacity in the system to deal with public health emergencies. This was highlighted in the Ontario Medical Association submission to the Walkerton Inquiry where Justice O'Connor's first recommendation, which was suggested and promoted by the Ontario Medical Association, was that each region be required to employ a full-time Medical Officer of Health. To this date, there are vacancies in eight (8) full-time Medical Officer of Health positions and five (5) associate positions in the Province.
>
> It is not only a human health resource issue that has led to this lack of Medical Officers of Health but also a grossly underfunded public healthcare system. The current public healthcare system as it exists today has no elasticity.[105]

When SARS hit, the workload imposed on local public health units was overwhelming. The hardest hit jurisdiction was Toronto, where the workload snowballed with each passing day of the outbreak. Staff worked long hours and demonstrated remarkable dedication to the response effort. Twenty-hour workdays were not uncommon. The problem was not any lack of dedication and effort, but the fact that it was impossible in the middle of a rapidly expanding crisis to create the necessary infrastructure. As noted in the Commission's first interim report:

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[104] SARS Commission, first interim report, p. 33.

[105] SARS Commission, first interim report, p. 34.

There was a shortage of staff at Toronto Public Health to do the day-to-day work of identifying contacts, calling them to provide accurate and timely information and to maintain consistent contact throughout the period of quarantine. Some surge capacity was achieved by redeploying staff from other public health work. Additional capacity was achieved at times from other health units and the federal government. Dr. Sheela Basrur, Dr. Barbara Yaffe and Dr. Bonnie Henry noted in a recent article:

> Public health staff and physicians from the City of Hamilton, County of Lambton, Middlesex-London, City of Ottawa and Leeds, Grenville and Lanark Health Units as well as the federal government also provided on-site assistance, which proved invaluable in sustaining the TPH response. However, even with this out-of-town assistance and the redeployment of workers from other public health jobs, there simply were not enough people to do the work and there were insufficient internal coordinating mechanisms to ensure that the information was both obtained and provided in a smooth and efficient manner. Consequently, a number of significant problems arose during SARS around the ability of Toronto Public Health to handle the massive workload.[106]

As the Commission found in its first interim report:

> However one addresses this question of staffing levels as between infectious disease and other health programmes, the fact remains that extra surge capacity is required in a significant outbreak. The solution is not to hire large numbers of people to sit around and wait for the next outbreak to arrive. The solution is devise a system through cross-training and re-assignment to deploy more workers on the ground for the painstaking work of contact tracing and following up on those in quarantine. It speaks equally to the need for better internal information systems and a planning process which ensures that the work of core personnel and added personnel can be properly coordinated …
>
> … Provincial plans and local plans are required for response to outbreaks, both large and small, which mobilizes surge capacity through redeployment of public health workers cross-trained in outbreak investigation and

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[106] SARS Commission, first interim report, p. 148.

> management. Such plans should include prearranged agreements and memorandums of understanding between health units to redeploy workers from areas of relatively light activity to areas of peak activity. Under this system, an outbreak in Windsor might attract the temporary redeployment of workers from Toronto and vice versa. This is easier said than done; it requires a real commitment in expenditure to achieve the necessary cross-training, willingness and dedication on the part of the individuals who will be reassigned away from their homes and families and a strong cooperative motivation from all levels of the public health system to make redeployments work. The other obvious limitation to redeployment is that it will not work if the entire province is hit by an outbreak which takes up all the spare capacity of every health unit, in which case the local plans will be critical.
>
> Finally, the province must collaborate with other provinces and with the federal government to ensure clear agreements for support during times of crisis. During SARS the province received help from outside Ontario as a consequence of the goodwill created between colleagues, not as a result of any formal agreement. SARS was a wake up call. It demonstrated the need to create surge capacity by planning in advance so that every available worker can be redeployed where necessary.[107]

One of the challenges during SARS was how to collect, analyze and manage the massive amounts of information collected by public health officials. The Toronto Public Health unit, which had the majority of the SARS cases, relied on a paper-based system of case tracking. This nightmarish system generated cardboard boxes spilling over with paper, all of which had to be collated and analyzed by hand. Although Toronto Public Health had initially attempted to gather and track the contact information electronically, as the numbers swelled this quickly became impossible to do with the Excel system they were using. Toronto Public Health, despite its best efforts, was forced to resort to a paper-based system, which remained in place throughout the outbreak.

Dr. Bonnie Henry, an associate medical officer of health with Toronto Public Health and a key figure in the SARS outbreak, wrote in her notes of the outbreak that:

> This outbreak has also made clear the paucity of resources put into public health in Toronto with 5 physicians and lack of nursing staff to deal with

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[107] SARS Commission, first interim report, pp. 150-151.

> some of the complex medical issues that this outbreak has required. As well, the deficiency in our IT system is readily apparent as we were unable to create a data base that was able to manage the vast number of contacts that we were receiving in a very short period of time.
>
> We do not have the ability to input data into a single database from multi-terminals. At the same time, our IT system was clearly overwhelmed when the Scarborough Grace part of the outbreak occurred. The need to enhance public health's infrastructures clear from this outbreak especially with scope and size of this outbreak. In addition, the need to enhance the mechanisms of communication between TPH, the Ontario Ministry of Health and Health Canada need to be assessed. Much time in the first few weeks of this outbreak were spent on conference calls that did pass some information but resulted in exchanging of opinions and very little time to actually get the work done that needed to be done to help manage the outbreak and TPH opted to not participate in the Health Canada conference calls after the first few days as it became apparent that the degree of crises in Toronto is very different from that in the rest of the country and that we would need to implement measures in a more stringent fashion, in a more rapid fashion than the rest of the country was willing to consider at that time.[108]

The importance of strong public health resources, including the capacity to redeploy staff and the resources to effectively respond to an infectious disease outbreak, became evident during SARS as the number of contacts increased daily. Each contact had to be identified contact information located, contacted and interviewed and in some cases followed. As will be seen below, at times a call to one contact would yield further contact work for many more contacts, because in speaking to the initial contact more contacts would be identified to Public Health.

As the memory of SARS fades, as budget pressures loom and when there is so much talk about change, it is important that governments, local, provincial and federal, are held to the talk: that talk becomes action and that necessary resources levels are maintained and are not permitted to decline.

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[108] Dr. Bonnie Henry, Associate Medical Officer of Health, Toronto Public Health, "Summary of the Events of the SARS Outbreak on April 11, 2003" (Dr. Henry's Summary of SARS).

The T Family

By all accounts the epitome of dignity and cooperation in the face of fear and uncertainty, the T family was the first family to become ill with SARS in Ontario. Their story is told below. Although the story details the introduction and spread of SARS in Ontario, it is important to remember throughout the story of SARS that above all for the victims of SARS it was a time of loss and suffering. The T family lost Mrs. K, a mother, grandmother and wife, and Mr. T, a husband, son, father and brother, and four other family members were hospitalized for SARS. For them, and for so many other victims of SARS, the cost of SARS is impossible to calculate or describe, and telling the story of SARS, while important for learning the lessons of SARS, does nothing to replace their loss or ease their suffering.

As noted above, the matriarch of the family, Mrs. K, was exposed to SARS while staying at the Metropole Hotel in Hong Kong from February 18 to the 21st. Mrs. K died, at home in Toronto, on March 5, 2003. At that time, no one knew that she had SARS. The family members, unaware that their mother had been exposed to an infectious disease, were in contact with her during the period of time that she was ill.

By March 6, her son (Mr. T) and his sister, (Ms. T[109]) were ill. Both saw a family physician on March 6, 2003. They were diagnosed as having either a chest infection or the flu and were given medication. By the afternoon of March 6, Mr. T's infant son and wife were also ill. Mr. T's sister took Mr. T's wife and child to a family physician and then on to the Scarborough Grace emergency department. They were treated and sent home.

The following chart provides a chronology of the key events in the history of the T family cluster of illness. As can be seen from the chart, the story of the T family unfolded over less than a week. While it is easy now, with the benefit of hindsight, to review and dissect every step and decision made, at the time things happened within a short period of time and many things seemed to happen at once.

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[109] Although not all the family members' last names start with a "T," since their actual last names are not in the public domain for the purposes of this report all family members, immediate and extended, are referred to by the initial "T."

DATE	EVENT
March 5	• Mrs. K dies at home. Cause of death: congestive heart failure
March 6	• T. family members become ill
March 7	• Mr. T is seen at SG emerg – diagnosis: community acquired pneumonia
March 8	• A funeral is held for Mrs. K • Mr. T is moved to the ICU at SG hospital • Mr. T is seen by Dr. Finklestein – TB is suspected • Mr. T is isolated and staff begin to use precautions
March 9	• Dr. Finklestein reports possible TB cases to TPH • Four members of T family remain ill. Family members are seen by Dr. Finklestein, x-rays are taken – family members are sent home with masks and instructions to isolate themselves
March 10	• TPH commences TB investigation
March 13	• Mr. T dies • Dr. Finklestein speaks to Dr. McGeer • Other T family members are admitted in isolation, to hospitals across the GTA

Friday, March 7

Mr. T, the son of Mrs. K, continued to be unwell and on Friday, March 7, 2003, he was taken to Scarborough Grace Hospital via ambulance. He was triaged at 7:30 p.m. and admitted at 7:45 p.m. At that time he complained of a high fever and a severe cough and had difficulty breathing. His sister, who was with him, reported to emergency room staff that their mother had been ill and had recently passed away.

Unaware that there was a new and potentially deadly disease that was spreading in China and Hong Kong, staff in the emergency department at the Grace had no information to make them consider the possibility of a new and unknown infectious disease. The emergency physician who saw Mr. T in the observation room of the emergency department recalled that Mr. T had been referred to him as a case of pneumonia. At that time, there was nothing about Mr. T's case that caused any alarm bells to go off. As he told the Commission:

> It was a community acquired pneumonia. A man who hadn't had a significant medical history in the past and nothing unusual about his own personal situation as far as I can tell.

This physician noted that Mr. T had been in Canada for some time and, although he became aware that the mother was ill, it was not known at that time that she had recently travelled to Hong Kong. It was not a standard question on any screening tool to ask patients presenting at the emergency department about travel history of close contacts or travel within a family. The physician who saw Mr. T noted that even if he had known about the mother's travel, he was unaware of the outbreak of a mysterious atypical pneumonia in Hong Kong. As noted above, alerts about events in China and Hong Kong had not reached the front lines of the health system. Mr. T's physician said that while he did think that it was unusual that the mother had died of pneumonia, there was still nothing to raise alarms about the possibility of an infectious disease at that point in time:

> Question: And what was your understanding of her illness?
>
> Answer: I was actually told that she had died at home of pneumonia. And I thought that that was really quite strange … I had a hard time understanding how somebody, in this day and age, would die at home of pneumonia.
>
> Question: So, you thought it was strange that she died at home of pneumonia?
>
> Answer: Yes.
>
> Question: Did that cause you any concern?
>
> Answer: It didn't ring any bells.
>
> . . .
>
> Question: So as far as the mother goes, you're aware that she died at home, from what you understand, being pneumonia, you were not aware she had recently been to Hong Kong.

Answer: Absolutely not. That wasn't offered at all.

Question: Even if you had known that, were you aware at that time, of the events that were unfolding in Hong Kong?

Answer: No.

Question: Did any alerts come through to you at that point about an atypical pneumonia in Hong Kong?

Answer: None.

As noted above, because there was no bed available for Mr. T in the hospital, he remained in the emergency department, waiting for a bed to become available, for over 16 hours. Most of the time that Mr. T was in the emergency department, he was in the observation room. The observation room was essentially a large holding room in the emergency department which held eight other patients. Dr. Finklestein, an internal medicine specialist and respirologist who later became involved with Mr. T, described the layout of the room:

Dr. Finklestein: It is maybe about eight feet, nine feet from the edge of the nursing station to the end of the bed and they leave five feet between beds maybe. If I walk beside the bed and there is somebody sitting in a chair beside the next bed, I will bump their head with my behind.

Question: Maybe five feet between beds.

Dr. Finklestein: Maybe four or five feet between beds.

Question: And a curtain?

Dr. Finklestein: And a curtain.

Question: Full curtain to the floor, or partway?

Dr. Finklestein: It would have been within a foot of the floor.

Question: So basically he [Mr. M, whose story is told below] is there when Mr. T is there.

Dr. Finklestein: He is there, however, Mr. T spent a little time in the resuscitation room … it is a separate room, but he seemed to improve and the nurses and the overnight staff did not feel he needed that level of care, so they brought him over here [to the observation room].

Throughout his stay in the emergency department, Mr. T was not isolated and staff and physicians did not use protective equipment. Because the emergency department was busy, the observation area was full, as patients waited to be seen or admitted.

Pre-SARS, it was not a common practice in Ontario to isolate patients with pneumonia or respiratory illness. The above-quoted physician, who saw Mr. T in the emergency department that night, explained that at that time he was not aware of any protocols that required isolation of patients with respiratory illness, nor was it standard practice to do so:

Question: At the time that you saw Mr. T in emergency, were there any policies and protocols in place about precautions to be taken with patients with respiratory illness?

Answer: No, not particularly. I mean, if there were, they weren't acted on by people before me and for the years that I have been there. If somebody came in with a concern about tuberculosis, as an example, if somebody had made that decision. Occasionally people who were in isolation rooms, sometimes they're in isolation rooms not so much for other people's benefit, but for their benefit, in other words people who are immunosuppressed, who might be ill in some fashion, are sometimes put in isolation. But they wouldn't be explosive.

This physician said that the only time they isolated a patient was if there was a concern about tuberculosis. He told the Commission that when Mr. T was in the emergency department, tuberculosis was not identified as a concern. This physician said that there was no greater concern for passing pneumonia to people beside Mr. T than there was for any other patient:

Question:	As far as pneumonia, was there any concern about, here he is in a room when many other people, some who were elderly. Any concerns about him passing it on to the people beside him, even from a pneumonia perspective?
Answer:	No more so than anybody else with pneumonia who comes into emergency at any other time.
Question:	And pneumonia cases are generally not isolated?
Answer:	That has been my experience.
Question:	Are you aware of any written policy about that?
Answer:	I am not aware of any policy written like that at the time.
Question:	And your experience prior to that, had you ever isolated a pneumonia patient?
Answer:	Only if there is a concern about them having something like TB.

One Toronto doctor who was involved in SARS, agreed that the treatment of Mr. T in the emergency department on March 7, 2003, was consistent with standard practice. While practices are much different now post-SARS, when Mr. T presented at the emergency department no one had the benefit of knowing all the things we now know post-SARS:

Answer:	I think what happened at Scarborough Grace, that patient that night, was a patient with community acquired pneumonia, and that if you look at the CDC and the Health Canada guidelines, the patient was managed appropriately so there were no rules that were broken, and I don't think that was the problem.

Question:	You mean because the only diagnosis that was realistic was community cquired pneumonia and the patient was handled appropriately for that diagnosis?
Answer:	That is right. A day later, they thought, maybe it's tuberculosis, and he was put on precautions.
Question:	So unless one adopted the approach you suggested a few minutes ago, that treated every lower tract respiratory ailment as an infection you would be bound to follow the same …
Answer:	That's right. Remember, we've never experienced anything like this and so next time, you would respond sooner, and if you saw a cluster of cases, you would react differently, knowing what we know now. But at that time, we did not know that we would see something like this. And so it wouldn't ne as bad next time, but it was just that no one expected it to be this bad.

Mr. T remained in the emergency department, unmasked and in close proximity to other patients in the room, for over 16 hours[110] before he was admitted to a medical unit. As it turned out, this was a crucial event in the spread of SARS. During this time medical intervention included commonly used treatments that, unknown to health care providers at the time, potentially exacerbated the spread of the disease in the absence of special precautions later associated with SARS. As noted in the Naylor Report:

> Many patients and staff were exposed to Mr. T before he was placed in isolation, and two of the patients being treated in the Grace emergency department at the same time would also fall ill. Partly due to hospital overcrowding, Mr. T remained in the emergency department long after doctors had authorized a hospital admission. While waiting for a bed to be freed up, Mr. T received oxygen and vaporized medications (potentially capable of transforming infectious droplets into an infectious aerosol), and had numerous visitors.[111]

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[110] As noted earlier, Mr. T was triaged in the emergency department at 7:30 p.m. on March 7, admitted 15 minutes later, at 7:45 p.m., and transferred to a medical unit, 4D, at approximately 12:00 noon on March 8.

[111] Naylor Report, p. 25.

The impact of Mr. T's protracted stay in emergency was profound. Two other patients who were in the emergency department the same time as Mr. T were exposed to SARS and became ill. As the transmission chart referenced earlier in this section shows, the spread from Mr. T was relatively limited, due to his eventual isolation and the use of protective equipment by staff. But the spread to two other patients, Mr. H and Mr. M,[112] whose stories are told below, later went on to spread the disease to 27 other people, including family, other patients and health workers. Those 27 went on to spread the disease to another 34 people, including other patients, visitors, health workers and household contacts, who then went on to spread SARS to another 17 people.[113] These numbers do not include transmission that ensued as ill patients were admitted or transferred to other hospitals and further spread the disease before anyone knew that they were infected with SARS.

Saturday, March 8

On Saturday, March 8, between 10 a.m. and noon, funeral services were held for the family matriarch, Mrs. K. Approximately 40 to 60 people attended the funeral, including Mr. T's wife, who was unwell with a cough but stayed away from the rest of the family at the funeral.

Meanwhile, Mr. T remained in the emergency department at Scarborough Grace Hospital until 12:00 noon, when he was transferred to a medical floor, 4D. Because he was still thought to have pneumonia, he was not isolated on 4D and the staff did not wear personal protective equipment when caring for him. Mr. T's condition continued to deteriorate and on March 8, 2003, at approximately 3:00 p.m. he was transferred to the intensive care unit.

When Mr. T first arrived in the intensive care unit he was placed in a regular room, not in isolation. Staff did not wear personal protective equipment. As one of the ICU nurses who worked that day recalled, they had no reason for alarm:

> We were told that there was a patient with pneumonia who was having difficulty breathing and needed to be put on BiPap [bilevel positive airway pressure device], so when he arrived in the ICU he was put into

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[112] As noted above, in this chapter, with the exception of Mr. T, the initials of the other patients whose stories are told in this report have been changed.

[113] Varia et al., "Investigation of a nosocomial outbreak of SARS."

> room 1, no isolation because in those days, pre-SARS, we didn't isolate people with pneumonia. And very soon after he was put on BiPap, because he was struggling to breathe. A little later on, his sister came to the desk and this is when it became apparent that there was something really wrong because she was quite upset and she wanted to see a social worker. That was her question to me: Could I see a social worker. And I said, why do you need that, because it was certainly an odd question for a family member to request for someone with pneumonia. And she said, well, my whole family is sick with this pneumonia; my brothers, and my mother just died of it two days ago, and myself. You can imagine the nurses, we all kind of backed away, thinking at that point that it must be TB, because that was the type of thing that spread through a family like that.

Dr. Finklestein recalled being asked by the nursing staff late that afternoon to see Mr. T:

> … I came back to the hospital at about roughly 6:00 [p.m.], for reasons I cannot remember, it was a bit earlier that day, and I walked as I usually do through the ICU to make that everything is good and the patients are not deteriorating. And the nurses said we just got this patient down about 4:30 or 4:45 and he was sitting in ICU bed 1, which is a private room, which at that time had no negative pressure capacity. The door was open, he was on BiPap, facial ventilation, they said he had deteriorated on the ward and he was getting worse and he had a fever. And then they told me … his mother died two weeks ago, I don't necessarily remember if she told me about the travel history at that point, I certainly knew it by the end of the night, and that was enough. I was told clearly she died of congestive failure, which I later verified with the coroner, who is an acquaintance of mine. I happen to bump into him and said what do you think? He said it really it looked like congestive heart failure, and that is what was on the death certificate I believe. Anyways, it just didn't feel right, fever, and infection, and your mother just died of a questionable illness, because she didn't have heart failure before. I said put him in room ten, even before I walked in the room. Room 10 is like the big negative pressure room with antechamber … Before I even walked in the room, it didn't sound right; it didn't feel right. TB, react and think.

Dr. Finklestein told the Commission that he and other staff at Scarborough Hospital had always maintained a high degree of vigilance for tuberculosis, due to the makeup of the community that the hospital served:

> At Scarborough [Grace] we already have a high degree of vigilance, because of our ethnic population and TB. Everyone had TB until proven otherwise, was my motto. You saw more TB than almost any other hospital, even though we are a smallish hospital, we saw tons of TB, so it was always on the surface, we were always thinking about, and any x-ray that looked too funny or any patient that the story didn't quite fit, got isolated, at least that was my practice. On the basis of, you know what, if I had any reason that this doesn't make sense, you've got TB until I prove it otherwise, and I'm going to isolate you. That is what we did with the Patient no. 1, it just didn't fit, and so we have to isolate on intake and I will say that four or five more times.

As noted above, like the physician who saw Mr. T in the emergency department, Dr. Finklestein had also not heard about events in Hong Kong and China. He did not know to ask about travel history of the patient and his family members and did not know to be suspicious for anything unusual. However, because tuberculosis was suspected, steps were immediately taken to limit exposure to this patient, before they could move him to a proper, negative pressure isolation room. At approximately 6:45 p.m., Mr. T was moved to a negative pressure room in the ICU. Staff began to use precautions, which included gowns, gloves and a surgical mask. As Dr. Finklestein told the Commission:

Question:	You moved him to a negative pressure room?
Dr. Finklestein:	Before I even walked in the room, it didn't sound right; it didn't feel right. TB, react and think.
Question:	Is this your precautionary principle approach?
Dr. Finklestein:	TB until proven otherwise, and react and think. Put him over there, it doesn't hurt him. In ICU, the closed door doesn't matter because there is so much nursing. And we put him over there, and everyone was wearing masks, I don't think at that time we were wearing, we didn't start gowning until the next day.
Question:	You were wearing surgical masks, or N95s?

Dr. Finklestein: I don't think anyone knew what an N95 mask was before SARS.

Question: What would you wear for TB?

Dr. Finklestein: Just a regular surgical mask. So we moved him over there by 6:00 p.m. that night. I do feel that that one thing that we did prevented, that plus something I did the next day, but I think those two things really prevented us from have two more generations of SARS before it was clued in that this was an outbreak, I am absolutely sure of it. So that evening I met with his family, I don't remember if someone told me they had a fever, I said, you don't look well, do you have a fever? I mean, they looked unwell.

Sunday, March 9

On March 9 a skin test was done on Mr. T to test for tuberculosis. The T family, many of whom were by this time ill, visited their brother in the ICU. While they were in the hospital, Dr. Finklestein met with the family and provided them with education about tuberculosis precautions. Dr. Finklestein met with four of the family members and noted that all four of them were unwell. They were all sent to the diagnostic imaging department for chest x-rays as part of their tuberculosis work-up. The Naylor Report described the assessment and handling of Mr. T and his family:

> The physician who treated Mr. T was a respirologist and intensive care specialist who astutely suspected tuberculosis. He had not received any information about the mysterious respiratory illness in Guangdong. With tuberculosis a possibility, he isolated Mr. T, and asked the rest of the family to isolate themselves at home. He contacted Toronto Public Health.[114]

Dr. Finklestein told the Commission that because he did not have the capacity to admit all of the ill family members in proper isolation and because none of them were seriously ill at that point, he sent the family members home with masks and with instructions to isolate themselves. As noted above, before the family members went home, Dr. Finklestein said he ensured that they each had an x-ray done:

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[114] Naylor Report, p. 25.

> … that night with masks on, I explained to them what we do, and everyone would wear a mask when they are out, not N95, just a regular mask. And because I did not have the ability at that time to admit five people, and usually until we confirm an illness, I mean, we will say isolate yourself at home, this is a practice we did and we still use. I sent them for x-rays that evening, the whole family, and I x-rayed them all and everyone had an abnormal x-ray. Dad's was really abnormal, but he had chronic lung disease before. X-rayed them that evening, they went with masks on, and I spoke to the x-ray tech, who told me they [the T family] wore their masks, they were good in terms of following instruction. And they essentially, for the most part, stayed away from the hospital, but I did meet with them again Sunday morning.

Also on March 9, Dr. Finklestein phoned Toronto Public Health to report the family cluster of illness and suspected diagnosis of tuberculosis for Mr. T. He told the Commission that although reports to Public Health were typically made by the infection control practitioners in the hospital, he made the report himself as he was concerned about the patient and the family illness:

> I said your x-rays are all abnormal, you've got fevers, you look lousy, there is something going on in your family. And I did something I have only done, that was the only time I did, I picked up the phone and I called public health. From the hospital there is absolutely zero indication for a physician to call public health, because we have an infection control team. You know what, it was Sunday; I had the family, there was some travel involved. I said this might be TB, but it is progressing more rapidly than I would have expected, TB is a slower developed disease. But I have done this, I have isolated them … I said go home, stay home; I'll get you sorted out in the next day or two. And I spoke to someone in TB control, there is one person covering all of public health, I mean, they should know all the outbreaks going on, at least I hope so, but I don't know what happened as a result of that phone call …

Dr. Finklestein advised Toronto Public Health that some of the family members were also symptomatic and that they had been sent home with masks. Dr. Finklestein queried if the matriarch, who had died of a myocardial infarction (heart attack) on March 5, might also have tuberculosis. Toronto Public Health noted that the "family is from an area where TB is endemic."

Dr. Finklestein said that at this point in time he was still trying to figure out what they had but he did not have any information to say it was something other than pneumonia or possible tuberculosis. There was still nothing to suggest that they had a new infectious disease or to connect their case to the developing outbreak in Hong Kong and China, an outbreak that Dr. Finklestein still had not been alerted about. As of March 9, Mr. T was in hospital being cared for and the other family members were home with directions to isolate themselves and had been given masks. Their health was being monitored. As he told the Commission:

> I didn't know, again I was treating, they had an infections disease, that part I knew. It was spreading; it spread rapidly from one person, the mother, to three people, the four people [the four family members], and it spread rapidly to them so that wasn't really following TB's behaviour. It could have been a viral pneumonia I thought, but I did not have any other background to say it's something different.

Although Dr. Finklestein was aware of the travel history of the mother and reported it to Public Health, he received no information back that would suggest there was a concern about an imported disease. As he told the Commission:

> When I picked up the phone I said, I definitely knew the travel history by that day, because I had met with the family. What I would have expected … I have a patient, I have the travel history on the family, mom is dead, a few people are sick, I would have expected Public Health to say, oh, don't you know about the outbreak in Hong Kong? That's what I would have wanted to hear back.

What Dr. Finklestein and others, including Toronto Public Health, did not know, is that this was not TB, but something far more infectious and that others in the hospital had already been exposed to the disease and that it was spreading beyond the T family.

Monday, March 10

On Monday March 10, the Toronto Public Health Tuberculosis Team (East Region) was notified of the report made by Dr. Finklestein on March 9, 2003. Toronto Public Health began a tuberculosis investigation and started to identify contacts. As part of the investigation, the status of Mr. T's family members was reviewed. It was determined that three adult family members had symptoms with abnormal chest x-rays, and that one child had mild upper respiratory symptoms. Toronto Public Health advised the family to follow up with their family physicians but to use a mask when attending the physicians' offices.

Also on March 10, Ms. Agnes Wong indirectly became involved in Mr. T's case. Agnes Wong was an important figure in the first outbreak. The patient care manager and nurse educator for the intensive care unit (ICU) at the Scarborough Grace Hospital, Ms. Wong was and continues to be highly regarded by her staff. Ms. Wong recalled speaking to one of the ICU nurses on the weekend and hearing about Mr. T being recently transferred to the ICU. She recalled that on the morning of Monday, March 10, another ICU nurse came to her office and also mentioned Mr. T, who had continued to deteriorate since arriving in the ICU.

Ms. Wong, who spoke and read Chinese, recalled that she had read a report in a Hong Kong newspaper about a young father and his daughter who were from Hong Kong who had both died of a mysterious illness after returning from a visit to mainland China. As she told the Commission:

> In fact, it could have been a magazine or paper, a weekly magazine or paper, I don't remember exactly where it is but I remember that night. It was a story type of information that I read. It was about a Chinese family who was from Hong Kong. They travelled to mainland China. And then the whole family kind of got sick and then the daughter, no, the father was in Hong Kong at the time, the daughter, the son and the mother were travelling in China and the family got sick and I remember the daughter was very sick. And the father went from Hong Kong to China to look after the daughter and the father got sick from the daughter as well. And eventually the daughter died, the father died and the son and the mother I believe survived, went back to Hong Kong and I believe they recovered. But I just found the story very sad …

Ms. Wong said that even before she read this article, she had heard on a Chinese radio station about reports of an outbreak of atypical pneumonia in China and Hong Kong:

> For a while, even before that [before reading the article described above] we heard some news from the Chinese radio talk about atypical pneumonia and that's happening in China, and then, you know, also in Hong Kong. So for a few months at least, I believe. It was on and off my radio. I usually drive to work and then I turn on the radio to work and after work, to the Chinese station, so they're giving the news report and they usually mention something about atypical pneumonia.

Recalling this story and the radio reports, Ms. Wong asked the nurse to check if there was a record of the travel history for the patient. Ms. Wong described the sequence of events for the Commission:

> Over the weekend, somehow, I don't remember what happened, I happened to talk to one of the nurses who looked after Mr. T and then over the phone, that nurse told me that night, this patient is a very sad story. The mother died and then he became so sick. So I kind of learned a little bit over the weekend before I came in, and on the day that I came in, in the morning, the nurse looking after Mr. T [a different nurse] came to my office and talked to me about his case again. And then I told them about ... so I told her what happened in Hong Kong, the stories that I read and the atypical pneumonia, all this news I heard. So I told [an ICU nurse] to check the patient's history and see if there was any travelling history that occurred with this patient. So she went out and checked and told me that night the mother had travelled back home in Hong Kong. So I became more suspicious. So I told [an ICU nurse] to inform Dr. Finklestein and also infection control about this and then they can check further.

It reflected poorly on the lack of coordinated warning systems that this alert came not from government or public health officials, as part of a warning system, but anecdotally and accidentally from Ms. Wong. It was not Ms. Wong's job to monitor world events and provide alerts that should have been made through a coordinated warning system to all hospitals and physicians. The ability to flag the danger of a new disease should not depend on the happy accident that an alert health professional like Ms. Wong would happen to notice international reports of the disease. The information about what was happening in China and Hong Kong had still had not reached the front lines of the health care system.

Tuesday, March 11

On March 11 one of Mr. T's tuberculosis tests came back negative. One further test remained outstanding. In the meantime, the Toronto Public Health tuberculosis program continued to follow up with contacts and arrange for assessments.

As Mr. T's condition continued to deteriorate, staff in the ICU at Scarborough Grace worried that something strange was going on. They were concerned that Mr. T was more ill than would be expected if he had tuberculosis or pneumonia. As one ICU nurse stated:

> We had already decided amongst ourselves that this was something we didn't like … we said this was just a gut feeling, this guy is really sick.

The ICU nurses who worked with Mr. T took matters into their own hands, doubling up on gowns, and being very careful with their personal protective equipment as they cared for Mr. T. Their manager, Agnes Wong, supported them and took the position that they could wear whatever they needed in order to feel safe. Ms. Wong's immediate response to the nurses' concerns about their protection reflected an exemplary concern on her part and an understanding of the importance of worker safety in the face of an unknown illness. Ms. Wong said that although she did not want to frighten staff, she tried to impress upon them the importance of being very careful with this patient and of using precautions:

> I told [an ICU nurse] what had happened in Hong Kong. So I kind of alerted them because of those serious problems. I don't want to overwhelm them by telling them that in fact some health care workers already contracted the disease, while they're looking after the patient. I told them they need to be very, very careful. It was serious and it was the same kind of problem, it's going to be very serious. So telling them to be very diligent with respiratory infection control practices.

Ms. Wong credited her staff for containing the spread of the disease from Mr. T while he was in the ICU, saying that they recognized it was a serious illness and they were careful to protect themselves and others:

> I think the protection that we started early in ICU and I think the right thing is the nurses followed the advice, even though it wasn't proven or they hadn't heard the story in Hong Kong themselves. They chose to

> believe right at the beginning, and they all believed more when they see Mr. T's family get sick one after another. The first few days it was very critical. I think the thing they did right, I give credit to the nurses here, they're not only thinking about themselves. I know that they were very diligent in terms of policing the other people to make sure that they enter the room or leave the room properly, like housekeeping staff, x-ray staff or even some physicians and so on. And I know that they've been having fights with some other staff workers when they are not following the rules properly so they have some conflicts. They are willing to take the steps to stop people from contacting the patient. In one case they stopped the RT [respiratory technician] and the student from entering the room to watch a resuscitation going on. So I think that hard work was done right.

Wednesday, March 12

On March 12, 2003, Mr. T remained in isolated in the ICU. His condition continued to deteriorate and his diagnosis remained uncertain as doctors and Public Health waited for the second test result for tuberculosis to come back. His family remained ill at home, in contact with public health officials who were still investigating tuberculosis.

On March 12, 2003, the World Health Organization issued a global alert advising of atypical pneumonia cases in Hong Kong, China and other parts of Asia. The alert provided:

> Since mid February, WHO has been actively working to confirm reports of outbreaks of a severe form of pneumonia in Viet Nam, Hong Kong Special Administrative Region (SAR), China, and Guangdong province in China.
>
> In Viet Nam the outbreak began with a single initial case who was hospitalized for treatment of severe, acute respiratory syndrome of unknown origin. He felt unwell during his journey and fell ill shortly after arrival in Hanoi from Shanghai and Hong Kong SAR, China. Following his admission to the hospital, approximately 20 hospital staff became sick with similar symptoms.
>
> The signs and symptoms of the disease in Hanoi include initial flu-like illness (rapid onset of high fever followed by muscle aches,

headache and sore throat). These are the most common symptoms. Early laboratory findings may include thrombocytopenia (low platelet count) and leucopenia (low white blood cell count). In some, but not all cases, this is followed by bilateral pneumonia, in some cases progressing to acute respiratory distress requiring assisted breathing on a respirator. Some patients are recovering but some patients remain critically ill.

Today, the Department of Health Hong Kong SAR has reported on an outbreak of respiratory illness in one of its public hospitals. As of midnight 11 March, 50 health care workers had been screened and 23 of them were found to have febrile illness. They were admitted to the hospital for observation as a precautionary measure. In this group, eight have developed early chest x-ray signs of pneumonia. Their conditions are stable. Three other health care workers self-presented to hospitals with febrile illness and two of them have chest x-ray signs of pneumonia.

Investigation by Hong Kong SAR public health authorities is on-going. The Hospital Authority has increased infection control measures to prevent the spread of the disease in the hospital. So far, no link has been found between these cases and the outbreak in Hanoi.

In mid February, the Government of China reported that 305 cases of atypical pneumonia, with five deaths, had occurred in Guangdong province. In two cases that died, Chlamydia infection was found. Further investigations of the cause of the outbreak is ongoing. Overall the outbreaks in Hanoi and Hong Kong SARS appear to be confined to the hospital environment. Those at highest risk appear to be staff caring for the patients.

No link has so far been made between these outbreaks of acute respiratory illness in Hanoi and Hong Kong and the outbreak of "bird flu," A(H5N1) in Hong Kong SAR reported on 19 February. Further investigations continue and laboratory tests on specimens from Viet Nam and Hong Kong SAR are being studied by WHO collaborating centres in Japan and the United States.

Until more is known about the cause of these outbreaks, WHO recommends patients with atypical pneumonia who may be related to these

> outbreaks be isolated with barrier nursing techniques. At the same time, WHO recommends that any suspect cases be reported to national health authorities.
>
> WHO is in close contact with relevant national authorities and has also offered epidemiological, laboratory and clinical support. WHO is working with national authorities to ensure appropriate investigation, reporting and containment of these outbreaks.[115]

But this alert was not rapidly disseminated to physicians and other health care staff in the Toronto area. This fact was remarked upon in the Naylor Report:

> Physicians at several hospitals in Toronto involved in the first wave of the outbreak later advised that they were not informed of the alert by any level of public health – local, provincial or national. The next day, these physicians discovered the WHO alert through their own intelligence gathering.[116]

Toronto Public Health, still thinking they were dealing with a case of TB, continued to follow up with contacts and arrange for assessments.

Thursday, March 13

On March 13, Mr. T's second tuberculosis test came back negative. It was clear that whatever he had, it was not tuberculosis. The negative tests results were reported to Toronto Public Health by the infection control department at Scarborough Grace Hospital. The diagnosis of tuberculosis was revoked.

In the meantime, Mr. T's condition continued to deteriorate. His family was permitted to visit, but were required to wear masks and gowns. Nursing staff on the ICU, in an act of compassion and grace, tried to fashion protective equipment so that Mr. T's young child could be brought in to see his father but still be safe. At 12:28 p.m., on March 13, 2003, Mr. T died.

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[115] World Health Organization, "WHO issues a global alert about cases of atypical pneumonia: cases of severe respiratory illness may spread to hospital staff, March 12, 2003."

[116] Naylor Report, at p. 25.

By this time, four members of the T family, his sister, his brother, his wife and his infant child, remained ill. Dr. Finklestein had been following the family and saw Mr. T's sister, Ms. T, in his office that day. Her condition was deteriorating, so Dr. Finklestein sent her to the emergency department. Mr. T's brother had already been sent to the emergency department earlier that day. Mr. T's siblings were placed in a negative pressure room in the Grace emergency department and precautions were used by staff when dealing with these patients.

Concerned and looking for help to try to understand what was happening with Mr. T and his family, Dr. Finklestein phoned Dr. Allison McGeer, at Mount Sinai Hospital. Dr. McGeer, a highly regarded infectious disease specialist, had an agreement with the Scarborough Hospital to provide infectious disease support, in the absence of their own infectious disease specialist, Dr. David Rose, who was away at this time.

Dr. Finklestein spoke to Dr. McGeer, who provided him with more information about what was known at that time about an outbreak of atypical pneumonia in Hong Kong and China. Dr. Finklestein said that he also asked for help with the other family members, as the Scarborough Grace Hospital did not have the capacity to isolate all the family members properly:

> I said, Allison [Dr. McGeer], give me a hand, I've got a problem, I've got a family with fevers and rapidly progressive symptoms, and one just died, and the others are sick and I am going to need some help with negative pressure intensive care capacity, and she assisted me in finding some beds for the family.

With the help of Dr. McGeer, beds were found for the rest of the T family. Mr. T's brother was admitted to Sunnybrook and Women's College Health Centre. Mr. T's sister and Mr. T's wife were admitted to Mount Sinai Hospital. Mr. T's child was admitted to the Hospital for Sick Children. The Naylor Report described the admission of the family to these various hospitals across Toronto:

> The attending physicians recognized the need to prevent further transmission of a disease that was unequivocally contagious, but whose mode of transmission was unknown. They arranged transfers of Mrs. K's family members to hospitals with negative pressure isolation rooms, important in preventing transmission of airborne disease. Sunnybrook and Women's College Health Sciences Centre, Mt. Sinai Hospital, and the Toronto Western Site of the University Health Network all accepted family

> members. A granddaughter was admitted to the Hospital for Sick Children.[117]

Dr. Finklestein told the Commission that at this point in time, they still had no idea what was to come. In fact, he thought that they had averted an outbreak, and that the crisis had passed. As he told the Commission:

> … I spoke to [Dr.] Allison McGeer, whether it was a two-way conversation about the outbreak or a one way, she telling me, I don't remember. I don't remember if I knew something and I said what's going on in Hong Kong or she told me, I vaguely recall what she told me. And, you know, at that point they went into hospital, I thought things were terrific. I thought, I curbed a little outbreak although one [family member] had died unfortunately.

In the days that followed, as Public Health struggled to get a grip on the unfolding outbreak, the T family was dealing with the awful tragedy of losing Mrs. K and Mr. T, while four family members struggled to recover from SARS. Thankfully, all the other T family members ultimately survived their battle with SARS. Although the T family was the focus of much attention throughout the early stages of the outbreak and in later reports, little has been said about them. By all accounts they were a quiet, dignified family, who listened to instructions and did the best they could to help public health officials during the investigation into their illness. They had the terrible misfortune, through no fault of their own, of being the first contact case for SARS in Ontario. It could have been anyone in their place. One of the nurses who cared for Mr. T and dealt with his family described them to the Commission:

> They were a very dignified family. They never demanded anything. They did exactly what you told them to do. They never made a fuss about not being let in. They were just so scared all the time. But they never raised their voices. They lost their business. It must have been terrifying not knowing the language and being in that situation.

Post-SARS, there has been much reported about the failure to isolate Mr. T and that fact that he remained in the emergency department, in close proximity to other patients, for over 16 hours before he was admitted to hospital and 21 hours before he was isolated.

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[117] Naylor Report, p. 26.

In hindsight, we now know that had Mr. T been isolated sooner, the spread of SARS could have been contained. But doctors and other staff treating Mr. T at the time did not have the benefit of knowing that they were dealing with anything other than pneumonia. Dr. Finklestein, when asked what went right during SARS, said that one thing that went right was that Mr. T was isolated in the ICU. Dr. Finklestein noted that without the clinical judgment of possible tuberculosis, including the judgment of the ICU nurses, who also suspected tuberculosis and took precautions on that basis, Mr. T could have sat longer in the ICU, unprotected, exposing many more patients, staff and visitors. As he told the Commission:

> What went right, is early on some staff and people made some good early decisions, just based on good clinical skills, as opposed to having useful information. That was a good thing, because I know that if I had just left [Mr. T] to be on his own, we would had the whole ICU being sick in two days, and that would have been the standard of practice then, there wouldn't have been a question about it, so that would have failed.

Dr. Finklestein told the Commission that he did not think that Mr. T had been missed:

Question:	Stepping back, was Mr. T missed?
Dr. Finklestein:	No, not at all. Mr. T was not missed. I am not even so sure Mr. M [whose story is told below] was missed because we did not think we had a community outbreak, or a hospital based outbreak of something at that point. The only way you can take care of the first patient is to isolate them before you know you have a problem, and it is an incredibly difficult thing to identify. But once the first patient is into the hospital system or there is close contact, you will have two generations of infection before you are aware of it. You need to make sure that patients who are at risk, are identified at the triage screening and are put in appropriate precautions. What are appropriate precautions? I do think that will have to undergo a degree of evolution. I think it will have to be like this, some will become well secluded and others will become open.

One ICU nurse said that everyone did their best and that it was contained initially because of the efforts and actions of the ICU staff and management:

> …We did our best. And as far as I can think of, the doctors were good and the nurses and the managers played an important role too. So it was contained, very well contained, because of the action of the nurses in the ICU. As soon as he came, because we thought it looked like a TB patient, the concerns were taken to Dr. Finklestein and he came up, and the same day, within a few hours, he was isolated. And even from then on, the care given to the patient, because we discussed everything and he wasn't improving, so they were trying to find out what's going on, so the care that was given to the patient was excellent. And also isolation procedures, because that's the best we could do those days. We didn't have all those special masks and different gear for each patient and all that, because we didn't know what the disease was. So if SARS came now, we are more equipped to look after the SARS patient.

The Commission finds that with the knowledge doctors had at the time, there was nothing to cause them to suspect that Mr. T was infected with a new, very serious atypical pneumonia, of the kind that was spreading throughout China and Hong Kong.

The Commission finds that alerts about an outbreak of atypical pneumonia in China and Hong Kong did not reach front-line physicians. Because front-line physicians and health care providers were unaware of events in China and Hong Kong, they were not on the lookout for cases of atypical pneumonia and did not know the significance of finding such a case, particularly one with links to China or Hong Kong.

In contrast, the first case in B.C. was isolated at Vancouver General Hospital, shortly after his arrival in the emergency department. While there are clearly differences in the two cases,[118] one key difference was the level of knowledge of front-line staff about events in China and Hong Kong and the connectivity between hospital staff and a central public health agency, with lab capacity and scientific support, such as the B.C. Centre for Disease Control. More will be said about the Vancouver experience, later in the report.

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[118] As Dr. Finklestein pointed out to the Commission, in the case in B.C., the patient who came to hospital had travelled. In the case in Toronto, Mr. T had no travel history; it was his mother, who had died at home:

> Night and day [between Toronto and Vancouver]. That patient [the Vancouver patient] got off a plane, our patient did not travel anywhere, our patient's mother travelled. Our patient's mother was pronounced dead from congestive heart failure, that patient got off a plane, was sick when he got off the plane and I believe went right to the emergency room or soon thereafter. Our patient, at no time as I mentioned, did we ask have your family members been travelling, that was not a standard question, now it is.

The Commission also finds that Mr. T's unprotected exposure to other patients, visitors and staff prior to his isolation was the result of poor system-wide infection control standards and policies with respect to the handling of cases of febrile respiratory illness. These standards were not unique to the Scarborough Grace Hospital. Rather, they were consistent with a general system-wide decline in infection control and inattention to worker safety and the use of personal protective equipment.

The Commission finds that the transmission of SARS at the Grace Hospital was not the result of individual errors, but rather the result of a poorly prepared health care system that did not effectively communicate information to front line physicians about emerging infectious diseases, that had allowed the decline of infection control standards, and that did not routinely provide protective equipment for health workers and educate them in its use.

By March 13, although the family was now in hospital, isolated and being cared for with precautions, no one knew what exactly they were dealing with. There was no case definition for this disease, no test to confirm the diagnosis, no clear clinical progression. No one knew its incubation period, its infectivity or how it was transmitted. It still did not even have a name, but was referred to as an "atypical pneumonia." What was also unknown was that it had not been contained with the hospitalization of the T family members. As the investigation unfolded over the next two weeks of March, it became clear that the disease had spread further than anyone knew or could have imagined.

The Investigation Begins: Investigating the Unknown

Prior to Thursday, March 13, Toronto Public Health was investigating the case as a possible tuberculosis case. They too had never dealt with this disease, which would later be called SARS, and for them, everything about it was new and unknown. When the tuberculosis results came back negative on March 13, 2003, Public Health officials realized they were dealing with something other than tuberculosis but they did not know exactly what it was. The case was referred to Toronto Public Health's Infectious Disease program for further investigation.

Also on March 13, Dr. McGeer spoke to Dr. Barbara Yaffe, the Director of Communicable Diseases for Toronto Public Health. Dr. McGeer expressed concerns about the T family. She reported to Dr. Yaffe that the other family members were also being admitted to hospital.

Throughout the day Public Health officials and infection control at the Scarborough Grace Hospital, with the assistance of Dr. McGeer, tried to learn more information about Mr. T's case and the family's illness.

Dr. Bonnie Henry, a senior physician with Toronto Public Health and Associate Medical Officer of Health, had taken the investigative lead on the case. As a stark example of how totally unaware everyone was of what was to come, when the choice arose between this investigation and an investigation into a measles outbreak, another Toronto Public Health physician had offered to take a measles investigation, leaving Dr. Henry with the T family investigation, believing that the measles investigation would take longer. As Dr. Henry told the Commission:

> … [another Toronto Public Health physician] called me because there was a measles outbreak ongoing at the time and they were going to go public with a press release about issues around this measles outbreak, and he had this case report from one of the hospitals of these two members of the family who were really ill with influenza-like illness and he said to me, I think the measles one is going to take a lot of time, so why don't you take this influenza thing, and I'll take this measles one, so I offered to be the physician in charge of the initial investigation of that, and that would be under Barbara Yaffe.

Dr. Henry said that initially the travel history was unclear, because when Toronto Public Health had followed up on this, the patriarch, who suffered from other medical problems and with whom there was a language barrier, did not recall his and his wife's travelling to Hong Kong. As Dr. Henry told the Commission:

> I know when I became involved on, particularly on the morning of the 13th, the travel history was unclear, largely because family members were ill, there were language difficulties, and what we knew was that the mom had died at home from a heart attack, as far as the family knew, but it took some time to understand that the mom, who had died at home on the 5th, that she and her husband had travelled to Hong Kong.

However, when public health officials were able to speak to other family members, they were able to confirm the travel history and to piece together the history of the family illness. On March 13, many things happened that shed light on the case and allowed those involved in the investigation to start to piece everything together. As Dr. Henry told the Commission:

> At the time that we heard about it [the travel history], it was still unclear. But we did clear it up on that morning of Thursday the 13th, but many other things were happening at that time. The young man in hospital died, his brother was in intensive care and intubated, his sister was admitted into hospital at [Mount] Sinai, so all those things were happening at once …

As this information all started to come together on Thursday, March 13, 2003, the alarm bells started to go off, six days after Mr. T's admission on Friday, March 7, to Scarborough Grace Hospital. Later that day, March 13, during a teleconference with Toronto Public Health, infectious disease specialists including Dr. McGeer (of Mount Sinai) and Dr. Andrew Simor (of Sunnybrook Hospital) as well as infection control, attending physicians and ICU management at Scarborough Grace Hospital, it was recognized that Mr. T likely had atypical pneumonia imported from Hong Kong.

As the Naylor Report points out, the dots connected:

> Public Health officials, in consultation with experts like Dr. Allison McGeer and Dr. Andrew Simor, connected the dots. There was an unusual respiratory illness in Guangdong that had apparently spread to Hong Kong. Mrs. K had recently traveled to Hong Kong. She had died at home. Soon after, her son had developed a respiratory illness that did not respond to the usual treatment. He too had died, and other family members were now developing symptoms.[119]

At this time it also became apparent to both hospital and public health officials that there were a number of contacts, patients, visitors and health workers who had potentially been exposed to Mr. T and/or his family before they were isolated. The Toronto Public Health case file contains the following note, recorded March 13, 2003:

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[119] Naylor Report, p. 26.

> … There was an approximate 24 hr period where staff and other hospital clients may have been exposed. Hospital locations of concern include 4D, ICU, ER. Those hospital staff who were experiencing respiratory symptoms were asked to report to the SGGH Occupational Health. Testing of staff was to include NP for viruses, acute serum and Chlamydia. Patient lists were also being compiled by the hospital.

During the teleconference the following case definition was formulated:

> One or more symptoms of shortness of breath, cough, acute upper respiratory infection with or without fever.

The following day, Friday, March 14, Dr. Henry went to Mount Sinai Hospital and spoke at length with Ms. T. Ms. T was very cooperative and provided helpful information to Toronto Public Health about the family's health history and about family contacts. As Dr. Henry collected the family history, she learned that members of the T family, while ill, had visited six different family physicians and that Mr. T's sister, wife and child had been to the Scarborough Grace Hospital emergency department on March 6, 2003, the day before his admission.

Public health officials knew that it was important to identify contacts of Mr. T and to monitor them for onset of illness. But this was no small task. Among the possible contacts of the T family were:

- those who attended the funeral of the matriarch, Mrs. K, held on March 8, 2003
- contacts of Ms. T. during a business trip to the U.S., during which time she was ill
- contacts of Ms. T. during her flight home from the U.S.
- employment contacts of Mr. T
- hospital contacts of Mr. T for the approximately 21 hours he was in the hospital without isolation
- visits to six different family physicians, including x-rays
- contact with EMS and fire personnel who attended the 911 call for Mr. T

Throughout March 14, there were teleconferences between Toronto Public Health, the Ministry of Health and Long-Term Care, Health Canada, infectious disease experts, and Scarborough Grace Hospital officials and infection control. The objective was to gather as much information as possible about this new disease and to develop a course of action. But the challenge was that no one knew what exactly they were dealing with. There were many unknowns, including what the clinical picture of the disease looked like, what level of protection was required to protect health workers, how long the incubation period was, how long people were infectious and how the disease was transmitted. For example, it was initially thought that the incubation period was one to three days, then it was thought three to five days. In the days that followed this understanding would change to seven days and then 10 days.[120]

Dr. Henry described the challenge they faced, and the enormous task of identifying and contacting all of the T family contacts:

Question: You went in on the 13th?

Dr. Henry: The morning of the 13th, we started.

Question: Did you go to Scarborough Grace at that point, or did you do to Mount Sinai?

Dr. Henry: No. Toronto Public Health first, and we had a meeting with all the people involved to try to get a handle on what was happening. And this is when we were pulling in, we were getting more information, there was information about the travel, and he died that morning.

Question: So now, pretty well right away, it seemed like maybe it was more than TB?

Dr. Henry: Yes. Or something different from TB, yes. And during the period of the 11th, 12th, the tuberculoses testing had come back negative. But so did everything else.

Question: Right.

Dr. Henry: Including influenza, which was our best guess at the time, given what we knew what was happening in Hong Kong that this must be a form of influenza like the H5N1, that had been affecting other people. And that sort of drove a lot of things, because the incubation period for influenza is very short.

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[120] Seven days by March 15, 10 days by March 16.

Question: What is it, 24 hours?

Dr. Henry: One to three days, in general; one to five days maximum, but one to three days, when most people get ill in day two or day three and you can transmit the disease before you become ill yourself, with influenza. So, we thought, oh, this is a major issue. We knew that there had been a funeral on the 8th for the mom who died, and when we went back through it, we started doing contact tracing and trying to figure out who these people may have had contact with and there were about 500 people that we needed to get in touch with. We didn't have a list of the people who had attended the funeral, so that's why we went public on the 14th. I had asked for permission from the family to release the names of the two people who had died, so that we were better able to find [contacts] and they had given me permission to do that.

Question: Who was the person that was in charge to flush out the people who attended the funeral?

Dr. Henry: Attended the funeral, who had worked at the place where the young man had worked, contact [the U.S. city to which Ms. T had travelled], contacts with the other brother, family, find everybody who had been in contact with that family during this period of time. We went back from the date of the mother's death, I think we went back a week prior to that.

Question: And that week prior to … ?

Dr. Henry: There had been, prior to the mom's death, so there had been the coroner who attended at the house, there were six family physicians who had seen various family members over that period of time, they had gone into

> the hospital for chest x-rays at our direction to see if they had TB, there had been a whole bunch of people who could have been infected, so our primary focus at that time was to try and find those people and to see if anybody else was sick.

From the family history it became clear that March 7 to 8 might not have been the only window of exposure, nor Grace the only possible site of transmission. No one knew where all the possible contacts were. This meant that a contact could walk into a doctor's office or hospital at any time, ill and seeking medical treatment. It was critical that front-line physicians, particularly family physicians and emergency physicians, be on the lookout for new cases of SARS.

And the task of contact tracing was becoming enormous. The number of possible contacts of Mr. T in the emergency department at Scarborough Grace alone was over 200. After speaking to Ms. T, the number of contacts in total grew to approximately 500 people. Not all contacts were not easily identifiable in a timely manner, and public health officials wanted to ensure that no one was missed.

Two key communications had to occur: one to the public, to alert those who had been in contact with Mr. T or his family to monitor their health and to isolate themselves and contact public health officials if they became symptomatic; the other to Ontario's physicians, to put them on the lookout for possible contacts, as those who did become ill sought medical attention.

Public Notification

On Friday, March 14, in an effort to take the crucial step not taken earlier of communicating widely and effectively with Ontario's doctors, the Ministry of Health and Long-Term Care, Public Health Branch, attempted to send a letter to all physicians in Ontario. Again communication problems plagued the response effort. As one government official observed:

> I am appalled to say that when this started back in March the Ministry did not have a single source to contact health care providers or service providers in the province. We had some ratty distribution systems but none of them were really current or complete. Our only way in the short term of contacting individual physicians was to provide material to Ontario Medical Association and ask them to distribute the material to

> its membership. But it is not 100 per cent. We know that and we know that not everybody reads everything they get from the Ontario Medical Association. That was a problem. The Ontario Hospital Association was helpful in sending material out and, we would sent it to the [hospital] CEOs' offices, but they are not usually there at 3 a.m.

To distribute the letter, the Ontario Medical Association (OMA) was contacted by the Public Health Branch of the Ministry of Health and Long-Term Care to use its communications network to distribute an alert about atypical pneumonia to all physicians in Ontario.[121] The OMA distributed this document on behalf of the Ministry and through this email and fax network reached 90 per cent of membership throughout the province in a matter of hours.[122]

Also on March 14, 2003, the Ministry of Health and Long-Term Care issued a public alert about four cases of atypical pneumonia:

> Dr. Karim Kurji, on behalf of Toronto's Chief Medical Officer of Health Dr. Colin D'Cunha, today took steps to alert physicians, hospitals, ambulance services and public health units across the province that there are four cases of atypical pneumonia in Toronto that have resulted in two deaths.
>
> The Ministry of Health and Long Term Care's Public Health Division and the Toronto Public Health Unit are working closely with four Toronto area hospitals to investigate these four cases of atypical pneumonia which have occurred within one family.
>
> Public health officials are working as quickly as possible to determine the cause of these cases.
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> "The public health system is following standard procedures to notify the public about the outbreak of a potential communicable disease," Dr. Kurji said. "We are confident that the hospitals are following all the necessary infectious control procedures to contain and monitor the illness."

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[121] The alert was titled "Ontario issues alert about four (4) cases of atypical pneumonia to all physicians in Ontario."

[122] SARS Commission Public Hearings, September 30, 2003.

> The three hospitals where the family members have received treatment are the Scarborough Hospital (Grace Division), Sunnybrook and Women's College Health Sciences Centre and Mount Sinai Hospital. One child is currently under observation at the Hospital for Sick Children.
>
> Two of the family members have died of symptoms related to atypical pneumonia. The provincial coroner is investigating one of the deaths.
>
> Further laboratory testing is being conducted at the provincial laboratory with additional specimens being sent to the federal laboratory in Winnipeg.
>
> Atypical pneumonia is a severe form of pneumonia that begins with fever, fatigue, shortness of breath and cough. In some cases, it can progress to an acute respiratory distress syndrome.[123]

Toronto Public Health also issued a press release providing information to the public about the index case. The notice provided a contact number for Toronto Public Health and details of their hours of operation. In an effort to identify all contacts of the T family, Toronto Public Health took the unusual step of identifying the family by name, with the consent and cooperation of the family. The release included the following information:

> Toronto Public Health, in coordination with the Ministry of Health and Long-Term Care and local hospitals, is investigating several cases of respiratory illness in one Toronto family.
>
> Two individuals from this family have died and four other members are hospitalized. They have a severe form of pneumonia.
>
> The World Health Organization issued a global alert this morning on similar illnesses and deaths occurring in Hong Kong, Viet Nam, and Guangdong province in China. Three members of the family recently traveled to Hong Kong.

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[123] MOHLTC, "Ontario issues alert about four cases of atypical pneumonia", News Release, March 14, 2003.

> At this time, it is unknown if the Toronto cases are linked to the cases in Asia.
>
> Toronto Public Health is asking members of the public who came in contact with [name provided], who passed away March 5, or her son [name provided] who died March 13, or their immediate family and are experiencing the following symptoms, to contact Toronto Public Health. Symptoms include:
>
> - Sudden onset of high fever (over 38.5 degrees Celcius)
> - Muscle aches
> - One or more of the following respiratory symptoms – cough, sore throat, shortness of breath, difficulty breathing.
>
> Individuals who have traveled to any of the countries mentioned above within the past two weeks, and are experiencing these symptoms, should also contact Toronto Public Health.
>
> One of the affected family members also attended the Emergency Room of the Scarborough Hospital, Grace Division on the evening of Friday, March 7 until Saturday March 8. The individual was transferred to medical floor 4D and then to the Intensive Care Unit before being put in respiratory isolation. Individuals who were present at any of these wards on these dates, and are experiencing the symptoms listed above, should contact Toronto Public Health.[124]

On Friday, March 14, Toronto Public Health, the Ministry of Health and Long-Term Care and Mount Sinai Hospital also convened a press conference, advising the public that there was a cluster of cases of "atypical pneumonia" that might be related to an outbreak in Hong Kong. Hotlines were established to allow people to receive information about the illness and for people who might have been in contact with index family. Dr. Yaffe described the steps taken to alert the public about the family cluster of atypical pneumonia:

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[124] Toronto Public Health, "Notice of travel-related respiratory illness," press release, March 14, 2003.

> Of course, SARS the word didn't exist yet. What we announced … is that we had, I am going by memory here, I don't have any notes on that, is that we had some people who were very seriously ill with pneumonia in a small cluster. At that point I think, we had figured out that mother had been in Hong Kong, the mother who the coroner had put down she had died of a myocardial infarction and there was no autopsy. But that we had a small cluster of atypical pneumonia. That may be what they were seeing in the Far East. And we specifically gave the name of the mother on the press conference, because they felt it was important that anyone who was at her funeral would call us. And we said, "We're setting up a hotline," this was late Friday night, we said we are setting up a hotline, call Public Health if you were at the funeral, or you've been travelling or if you have any of these symptoms. And of course, there was a huge amount of media coverage the next day and our hotline was up and running and we got a lot of calls right away. One of the calls we got the next day was the family doctor who had seen the mother and now had the symptoms. And at the same time I was calling other directors to start to get staff in because obviously, it was Friday night, we had to get staff in for Saturday to set up a case management team hotline.

In the meantime, Public Health continued to try to identify contacts and follow up with each contact to determine if they were symptomatic.

The Commission commends Public Health officials for quickly notifying the public of the family cluster of illness. Despite the fact that much remained unknown, the communication with the public was an important step in the containment of the outbreak. As the number of contacts grew, a broad-based approach to contact tracing had to be utilized in conjunction with the ongoing efforts to identify and contact all individuals who might have been exposed to the disease.

It is particularly commendable that the T family put the health of others first, allowing Public Health officials to release their names to the public. Without this consent, the decision to release identifying information about the family would have been a much more difficult decision, as the legal power to do so was not entirely clear at the time.[125] Although it would appear that such a disclosure might be permitted today under the *Personal Health Information Protection Act,*[126] the Commission recommended that the *Health Protection and Promotion Act* be amended to clarify the power of a Medical Officer of Health or Chief Medical Officer of Health to disclose personal health information where it is necessary to investigate or prevent the spread of a communicable disease, so as to ensure that there is no legal confusion or uncertainty about the power to disclose.[127] As noted by the Commission in its second interim report, during a health crisis there is little time to pause in the midst of the outbreak to debate points of law or statutory interpretation. Powers must be clear and unequivocal.

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[125] For an analysis of this issue, see SARS Commission, second interim report, pp. 218-221.

The Commission finds that the health system and public health authorities were woefully unprepared to respond to the communication needs that would arise during a health emergency due to the inability to communicate with all physicians in Ontario in a timely and effective manner. Without the assistance of the Ontario Medical Association, the Ministry of Health and Long-Term Care had no way to communicate with the physicians of this province. This is a problem that remains today and that must be addressed immediately. Local health units as well as provincial authorities must be able to communicate with Ontario's front-line health providers. The communication must be quick and clear and be able to stand out in the mass of day-to-day communications that physicians receive from so many other sources. It is not enough simply to write to physicians. Where information is of an urgent or important nature, it must be communicated in a way that forces people to take notice or else run the risk of getting lost in the noise of a busy medical practice.

Transmission from Mr. T

What no one knew was that, in the early days of the investigation before Mr. T and his family were isolated, they had spread the disease to other patients, visitors and health workers, and that some of those contacts were now spreading the disease to others. The outbreak had not been contained. Although they knew they were dealing with something new and unknown, no one could have predicted how far the disease had already spread or the outbreak that was to come.

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[126] Subsection 40(1) permits disclosure if "the custodian believes on reasonable grounds that the disclosure is necessary for the purpose of eliminating or reducing a significant risk of serious bodily harm to a person or group of persons." Subsection 39(2)(b) permits disclosure of personal health information by a medical officer of health, that is established under the laws of Canada, some other province or territory, if the disclosure is made for a purpose that is substantially similar to the purpose of the *Health Protection and Promotion Act*. Section 2 of the *Health Protection and Promotion Act* includes the prevention of the spread of disease and the promotion and protection of the health of the people of Ontario. A medical officer of health is defined as a health information custodian under s. 3 of the *Personal Health Information Protection Act*.

[127] SARS Commission, second interim report, p. 221.

Mr. T was in the emergency room for over 16 hours. As noted above, because doctors did not suspect that he had anything other than pneumonia, he was not isolated, and staff in contact with him did not use personal protective equipment. Two of the patients in the emergency department between Friday, March 7, and Saturday, March 8, who were exposed to SARS from their close proximity to Mr. T, would later go on to become ill and spread SARS to other patients, visitors and health workers. The story of two of these patients, Mr. H and Mr. M, is told in greater detail below.

The identification and monitoring of contacts was not catching all those persons who had been exposed to Mr. T while in emergency. SARS lurked undetected in the hospital, spreading among exposed staff, patients and visitors. But it had also returned to the hospital, brought back by patients and their families who had gone out of the hospital with undetected SARS and then returned to spread it further within the hospital. And so the chain of transmission continued undetected, in some cases through those who had slipped through the trailing net of a contact tracing system that fell behind the disease.

Although Public Health officials had identified approximately 500 potential contacts of Mr. T, they would soon learn that the number was much greater. As Dr. Henry told the Commission:

> And there likely was more, and as we found out later, there was way more. Because we looked at direct contact in the hospital, it came to light over time that there were more people infected than we realized, and it started a domino effect, of the people that he probably had been in contact with before he was isolated on the ward, in the emergency room, and all of the people there. We were trying to track them down and as we were doing this case finding we were finding cases, we were finding people who were ill and that expanded then where we need to look, the people who were in contact with those people.

One of the problems at this time was that infectious disease experts and Public Health officials were learning about the disease as time passed but much remained unknown. As noted above, during the first few weeks, they did not know how or when the disease was transmitted. As Dr. Henry told the Commission:

> Well, the issues were around trying to figure out who was getting sick, when did you transmit the disease, did you transmit it before you became ill, or was it only after you became ill. There's that sort of progression of illness, what were the initial symptoms for most people, because for most people early on we were catching them and they were really sick, and as we were realizing later they were spewing lots of virus and they were really sick, but that the early onset of the disease was often insidious and may have been a week ahead of time, and so people would feel unwell, had muscle aches, little bit of a headache, headache being a really common feature, but no respiratory symptoms, and then the respiratory symptoms would start probably in week two of the illness, and then in week three they either got better or they got worse. That was the critical time frame. So that was three weeks into the outbreak before we had an idea that this was actually a three-week disease, because we had to follow people and were realizing that the early symptoms were difficult to detect.

Compounding the problem of not knowing how the disease spread or how infectious it was, its symptoms and clinical manifestations were unclear and those symptoms that were known were not unique. Although some of the early cases like Mr. T and Mr. M were identified because of the severity of their illness and their known contact with another case, without severity of illness and a known contact, the disease became more difficult to identify. And there was no test to aid in identifying those who were ill with this new disease. As Dr. Finklestein told the Commission:

> …There were really no pathognomonic features. So, there were no unique features despite what some people wanted to believe. There were no unique features to SARS as it was unfolding at the time. There are unique features to it, of course, but we had no access to testing for those unique features. We had no access to testing of the virus at that time and the virus wasn't even known yet at that point …

Another key factor that was not clear at the outset was the need to protect staff from exposure to contacts and what infection control precautions were needed, including the amount and type of protective equipment that should be worn by staff.

The Commission finds that there was a systemic disregard for the importance of protecting health workers from occupational hazards such as exposure to an infectious disease. Rather than start with a high, broad-based approach to protection and scale back as the risk became clearer, the opposite occurred: Protection for health workers increased as their risk became clearer. This meant that the learning about appropriate levels of protection came at a terribly high price, as precautions increased as health workers became ill.

Tracking Mr. T's Contacts

In the days that followed Mr. T's death on Thursday, March 13, infection control staff at the Scarborough Grace Hospital and Toronto Public Health focused on the task of identifying and contacting those patients, staff and visitors who were in contact with Mr. T prior to his isolation in the ICU. These early days were critical in the outbreak management. It was essential that potentially exposed individuals be contacted, monitored and, where necessary, isolated to prevent the spread of the disease.

But as each day passed, and the number of contacts grew, the identification of patients and tracing of contacts progressed slowly. One of the problems was early confusion over who was doing what in terms of contact tracing.

On Friday, March 14, the Toronto Public Health case file reports that a telephone call was received from the hospital, seeking clarification as to who was contacting patients and what they were being told:

> 10:50 am [name] called from SGGH meeting with 2 items the hospital wanted clarification on at their meeting. Patients who had contact with [Mr. T] in Emerge., 4D and ICU, is TPH contacting them and what advice are we giving?

Later that day, Toronto Public Health obtained the timelines for Mr. T's admission to hospital from Scarborough Grace infection control. The timelines confirmed the following areas and times of possible exposure:

March 7	7:45 pm admission to emergency dept
March 8	12 pm (noon) to 3:00 pm on 4D
March 8	3:00 pm on ICU, isolated 6:45 pm
March 9	Intubated
March 13	Passed away

On Saturday, March 15, a family physician who had seen several of the T family members reported to the Toronto Public Health hotline that she was feeling unwell.

Toronto Public Health arranged for her to be seen at Mount Sinai Hospital, where she was handled with precautions and admitted into isolation.

But by Sunday, March 16, 2003, the followup with respect to hospital contacts and the message to patients and staff were still not clear.[128] The Toronto Public Health case file notes for March 16 provide:

> 8:30 am briefing with manager, [name provided]. Directed to follow-up with Scarb Grace hospital, [name provided – ICP]: Asking how are patients being followed-up. Paged [name provided – ICP]. She responded to page and stated that [name provided – SG employee] has compiled lists and that they will start following up on patients in-house and outside. Details to follow
>
> 11:20 am – [name provided – ICP] paged – identified 3 areas of contact concern, 4D, ICU, Emerge.
>
> 2:05pm. Paged by [name provided] from ScarbGrace, ICP, to call her through locating. Had 4 requests:
>
> – requesting TPH help, they currently had 3 in ICP position as well as pulling [name provided], ICP from ScarbGeneral
>
> – requesting direction on emerge patient follow-up time (4 hours before admission and after movement to other ward)?
>
> – What type of message should the hospital be advising staff and patients
>
> – Requesting forms for blood testing. Advised to contact the Phlab.
>
> Consulted with the manager and TPH physician. Clarify movement of patient in ER and at this point only follow those patients in the window period 4 hours prior to admission. Monitor closely the staff who are calling in sick and apply the case definition. Reassure those who are not yet symptomatic. Critical contact time-frame outlined as March 7, 15:45 to March 8, 16:00 hours.

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[128] Toronto Public Health case files and Toronto Public Health SARS I Chronology.

By the afternoon of March 16, 2003, it was apparent that the contact tracing was a significant task, with over 200 possible contacts identified in the emergency department alone. The following passage from the Toronto Public Health case file shows the dimensions of the task ahead:

> 2:55 pm – [Infection Control] called back with detailed movement of patient in ER. Mr. T, was triaged March 7 at 19:30; and admission was recorded as 19:45. He was placed into an 8 bed observation area, and was later moved to the 3 bed room known as the resuscitation room. He was moved to 4D on March 8th, and later to the ICU. They estimate the population at risk who were exposed in the ER were approximately 210.

But as March 16 progressed, there was a lack of clarity over who was doing what. As noted in the Toronto Public Health file for Mr. T:

> [Scarborough Grace ICP] and their infection control team were arranging a telephone group. They pulled 3 extra people in addition to existing team to make phone calls to their patients tonight. At my request she emailed me a copy of what they were planning to say (as a prompt) to their out-patients. TPH doctors would review and comment back asap. Email passed on via TPH manager [name provided] to our TPH doctor [name provided] for our input before hospital started calling. 1 hour later, relayed that email looked good and at that time [SG ICP] informed me that they had sent their extra staff home and they (hospital) would no longer be calling the out-patients. Supposedly a misunderstanding had taken place and [Scarb Grace ICP] was quite emphatic that they would not be calling. Advised manager and was advised that we would then have to obtain list for follow-up.

Dr. Henry was asked about the initial confusion over contact tracing and said that much of the initial delay was simply the result of the time it took to get lists. She said that although there was some initial confusion over who would do what, it was based on a good faith desire on the part of the hospital to try to contact patients and visitors themselves, a task that they quickly realized would be impossible with the resources available to the hospital. As she told the Commission:

Question: The other part of that is we do see in some TPH notes that it is showing that there seems to be some confusion about who is doing what in the same period. On the 14th of March, someone calling Scarborough Grace, there are two items the hospital wanted verification on: patients who had contact with Mr. T in Emerg, 4D and ICU, is TPH contacting them and what advice are you giving? And then falls through for a couple more days. How are patients being followed up, this is Scarborough Grace. So on the 16th, Scarborough Grace is still showing some uncertainty about what was happening in there?

Dr. Henry: So recognizing that that is early on, when we initially declared the outbreak was on the 14th, yes, it took some time to get lists from Scarborough Grace, for their IT system to be able to do that, and at different levels I think people had different understandings about who was doing what. Certainly, it was very clear between, for example, the infection control practitioner and [Dr.] Allison McGeer from Public Health and [Dr.] David Rose about who was doing what, but that may not have filtered down to everybody, and it took some time to sort that out. It took time to get lists …

Question: What can hospitals do from a public health standpoint to make sure something like that didn't happen again?

Dr. Henry: The key thing, I think, is having an IT system that you are able to access the information off of it. I personally believe we should all be connected, we should all be able to, the health care facilities, Public Health, we all need to have some common platform where we can exchange information in a timely way because I think one of the things that held us back, was they had to, one, search their new IT system which had gaps in how it was being used and then print it off and fax it to us, and that of course meant that we had to even put it into any sort of electronic database, we would have had to redo data entry. There is a whole time thing with it, and to be able to even assign investigators to follow up with contacts, you had to either copy it multiple times and highlight who is going to do what, and it is not very efficient, and then there is a time frame to try, and the information that the hospital is able to give us was not in a fashion that made it easy to find people, to be able to find their telephone numbers, their home address. There was a lot of searching that had to go on. The other part of it that was difficult for us was that we were given the list of all of the patients and many of them lived in other regions so we then had to then cull out the people who were in York Region or in Durham or other places and give those lists to those public health people to follow up. So, it became complex. I think having a more streamlined system where we could at least communicate electronically, where we could pass information electronically between health units, would be really helpful. What we had to do was phone up, see if somebody was there, fax the the list, and then phone them again to make sure they got it. Just little inefficiencies really add up when you have a lot of volume.

Question: The best, in this kind of situation, where Grace says they're going to call the outpatients and Toronto Public Health understands, okay, you're going to call all the patients, that's fine. Then Grace calls back a couple of hours later and says, we're not going to do it, our staff is gone, you do it. Is that an IT problem or is that a preparedness problem?

Dr. Henry: No, it's not a preparedness problem. But my recollection of what happened is not quite that. It was that we had said, we have a responsibility, Toronto Public Health has the responsibility – when I say we, in this case I mean Toronto Public Health has the responsibility to contact anybody who is in the community.

But Grace initially said, that they are our patients, it is our community, we want to tell them ourselves what is going on and then when they sat back and looked at the volume and their staffing, they realized they could not do that, and they agreed to focus on their own staff who were still coming to work, and their in-patients. And the whole question of people being transferred to other facilities was a key one that we have talked about, that I had talked about with [Dr.] Allison McGeer, with the infection control team early on, as having to find those people. So the hospital, I think, realized the volume and weren't able to do that, but they wanted to for moral reasons, I guess more than anything. But there never was question that Toronto Public Health was not going to follow up with outpatients. That was always clearly our responsibility. Anybody who was no longer in that facility was ours.

Question: So, I am just trying to get a picture. At some moment in time, Toronto Public Health thinks that Grace is going to do something and then Grace says, no, we are not. Could that happen again?

Dr. Henry: Absolutely. I think that the relationship between Public Health and health care facilities, hospitals, is a tricky issue and always has happened, particularly in Ontario, perhaps less so in places that have regionalized, where Public Health and facilities are all under the same structure administratively, organizationally, but in Ontario and Toronto, hospitals are publicly funded and privately run and they believe themselves to be private entities and I think they have evolved to the point, and certainly prior to the SARS outbreak, our relationship, Public Health's relationship with health care facilities, was minimal and sometimes adversarial. The health care facilities that had infection control programs wanted nothing to do with us. Our authority ended at their front door. They are managed by the Ministry of Health provincially, they

> are funded provincially, we are a local municipal organization, the jurisdiction issues are difficult, and over time, I guess over the years, the funding of Public Health has been eroded so that we don't have the ability to have that relationship with hospitals.
>
> They have the expertise in infection control. Our infection control resources are directed towards the areas that don't, so community outbreaks, long-term care homes, much more involved in long-term care homes than infection control issues. So I think that was the whole situation at the time. I think most facilities in Toronto after this outbreak, recognized that having a collaborative relationship is really important and it was a give and take on both sides. I think Public Health is used to this sort of directive relationship that we have in long-term care homes, and it was difficult for staff to change their attitude to be consultative, which we are in hospitals, and hospitals don't like it when we are directive. They like us to be consultative and do what they want us to do …

Dr. Henry said that Public Health has a good working relationship with the Scarborough Hospital, a relationship that may not exist with all other hospitals:

> Question: If bird flu hit tomorrow, would you have a situation where Scarborough Grace would be saying, we are going to do it and then not do it, and quite apart from the overall relationships, is this still a problem?
>
> Dr. Henry: With Scarborough Grace, no; with some other hospitals in the city, yes.

On March 16 the Scarborough Grace Hospital faxed a list of the patients in the emergency department as well as contacts in 4D and the ICU to Toronto Public Health. Toronto Public Health officials scrambled their available resources and attempted to contact everyone on the list. A standard script was developed which read:

> Hello my name is __________
>
> Your name was provided to us by Scarborough Grace General Hospital. Their records indicate that you were in the Emergency Department[129] at the Scarborough Hospital Grace Division on March 7th or March 8th, 2003. As you may be aware, a patient was seen during the same time who experienced severe respiratory illness.
>
> We are working in co-operation with the Scarborough Hospital, Grace Division to contact all those seen in emergency during that period who may have been in contact with this patient.
>
> Since your visit to the Emergency department at the Scarborough Hospital, Grace Division on March 7th or 8th have you experienced any symptoms of respiratory illness. I will give you a list of the symptoms that we are looking for, please indicate 'yes' or 'no' when I list each symptom to indicate whether or not you have experienced them … [symptoms and instructions continued]

The list of symptoms included a sudden onset of fever (38°C), cough, shortness of breath, and difficulty breathing. Contacts had to be asymptomatic, have a sudden onset of fever (38°C) and one of cough, shortness of breath or difficulty breathing to meet definition.

If the contacted person did not have symptoms, they were provided the following advice:

> Thank you very much. According to the case definition being used for this illness as of March 18th,[130] the risk period for this illness will have ended. If you become ill before that with fever, cough, shortness of breath or difficulty breathing please call Toronto Public Health at [number provided].

If the person had symptoms they were to be referred to the Scarborough Grace emergency department and Toronto Public Health was to notify the emergency department that this person was being referred to the hospital's emergency department. The sheet provided a place for the Toronto Public Health employee to record the name of the hospital employee to whom the notification of the referral was made.

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[129] The script was modified depending on the location of the contact, whether it was the emergency department, the ICU, 4D, employment of Mr. T or Ms. T, funeral contacts or family physicians.

[130] The case definition was as of March 16; the risk period was thought to have ended by March 18.

The contact sheet also required that Public Health ask if the person had had anyone accompany them to the emergency department and, if so, obtain the person's name and contact information for further followup. Once that person was contacted, he or she were put through the same screening process. It is easy to see how this process, necessary as it was, became a bigger and bigger task, as the number of contacts could grow with each telephone call.

Recall that in addition to contacts resulting from Mr. T's hospitalization at the Scarborough Grace Hospital, the interview with Ms. T on March 14 by Dr. Bonnie Henry identified multiple other times and places of possible contact, including work contacts for Mr. T, travel contacts for Ms. T in the U.S. and on a returning flight from the U.S., contacts at Mrs. K's funeral and contacts during repeated visits to family clinics. Toronto Public Health had the challenging task of identifying all of the individual contacts, obtaining contact information and calling them to determine whether or not they were ill and to provide them with advice with respect to isolation and reporting of any onset of illness.

It quickly became apparent that resources were going to be an issue; as the number of cases grew and more and more information became known about the disease, the workload for Toronto Public Health grew by leaps and bounds. Toronto Public Health had little surge capacity and, due to limitations with the IT systems, was forced to manage the outbreak using paper files, resulting in massive amounts of paper and at times confusion. One of the challenges in the first few weeks of SARS was that in addition to trying to resource the investigation and outbreak response, Toronto Public Health was trying to learn about the disease, as so much remained unknown. As information changed, so too did the workload. As Dr. Henry told the Commission:

Dr. Henry: ... At the time it was trying, and we were having discussions, trying to get information on what was happening in other parts of the world as well, because around this time Hong Kong was starting to have outbreaks, particularly in the Prince of Wales Hospital, so we had some informal contacts through medical microbiologists here, because the medical microbiologist at that hospital had trained in Toronto and had gone back to Hong Kong. So he was telling us what was going on there, we were trying to get information through Health Canada, who were suppose to be contacting the other countries and some of the information was coming back and we were hearing things like in Hong Kong they thought the incubation period was three days and then five days, then seven days, by the following week. So around the 19th, 20th, is when we realized there were outbreaks at that time in Vietnam, in Hong Kong, Singapore wasn't until a bit later, and that it probably was all around the same thing. We knew that there had been travel to Hong Kong from our patient, the Vietnam outbreak was likely started by somebody who had travelled to Hong Kong, although the whole picture of how that started wasn't put together for another few weeks. But the key thing for us was they were seeing onset of illness, longer periods of time than is usually seen with influenza, so we were adjusting our incubation period accordingly, which meant we had to go back farther and find more people, so as you can imagine, it was quite intense trying to keep up with this.

Question: Did you have enough personnel to handle this?

Dr. Henry: No, we called, we started calling in people from all parts of Toronto Public Health to try and set up. And how we had initially started it, was we had groups of people that needed to be followed up, so people who were contacts of Patient X, people who were in the emergency department during this period and that period, and we had to get lists of names from the hospital, with or without contact information; this is when we realized how poor the information was that we keep on visitors, on when people come into hospital, when they leave hospitals, when they come into a emergency department, it's hard to tell how long they are staying there. So we had a lot of discussion with our colleagues in the hospitals, particularly around

> what's a reasonable length of time, should we do from four hours after they were in, or six hours, or what was the usual wait time for these people, just to include in the contact list or not, and then there was hospital staff. Although from the very beginning we kind of broke it up into patients who are no longer in hospital and staff who are in home quarantine, under us, and then the hospitals themselves would follow staff who were on work quarantine or patients who were still in the hospital, so it was more of a collaborative, you do this part, we'll do that part. And yes, so we kept building the teams.

As Dr. Henry reported in her notes of the outbreak, at this time Public Health officials thought that the initial contacts of the T family had been identified, and they worked with the Scarborough Grace Hospital to identify all possible contacts and contact them. They did not know that some contacts had been missed, such as Mr. H, or that SARS had already spread to staff and other patients in Scarborough Grace Hospital:

> From the Toronto Public Health point of view it appeared that the contact of the initial family and the additional family physician as well as the second case had been well identified and were in quarantine. Toronto Public Health worked with the Scarborough Grace hospital to ensure that all of the people who had been in the hospital either discharged from the emergency room, discharged patients or patients in the ICU at the time that the case was there, were identified. Toronto Public Health took over the identification and contacting of patients outside of the hospital, while the hospital HR [human resources] department took charge of contacting all staff members and monitoring staff for illness.[131]

The Commission finds that once the task of identifying contacts and followup by Toronto Public Health began, Toronto Public Health did a remarkable job with the resources it had, contacting patients who had been in the emergency department, 4D and the ICU at the same time as Mr. T, on or about March 17 and 18. Secondary contacts such as those persons in the family clinics attended by Mr. T and his family were contacted on or about March 20.

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[131] Dr. Henry, Summary of SARS.

But the exposure to Mr. T occurred on March 7. By the time persons were called between March 17 and March 20, the incubation period, thought to be 10 days, was over. For those patients who were ill, approximately 10 days had passed between their exposure and contact from Public Health officials. During those 10 days, an ill contact might have exposed countless others to the disease.

The delay in contacting those persons who had been in contact with Mr. T underscores the importance of clarity around roles and responsibilities to ensure that contact tracing begins at the earliest possible time, without delay. It also underscores the importance of ensuring that hospitals, medical clinics and other health care providers have strong information technology systems and that they are able to identify very quickly and accurately who is where within an institution. Without this, the task of contact tracing will be flawed from the outset, as public health officials will risk missing a potentially ill contact.

The contact tracing process also reveals the importance of broad-based communication where necessary to address a public health risk. As noted above, Public Health officials released information to the media about the exposure at the Scarborough Grace Hospital, including the names of Mrs. K and Mr. T, on March 14. Communication of this nature is critical to attempt to reach contacts as quickly as possible until individual contact with each person can be made.

Communication in turn depends on knowledge. Public health officials can report a public health risk to the public only if they are aware of it. In the case of Mr. T, Dr. Finklestein reported his concerns to Toronto Public Health, enabling it to become actively involved in the investigation. Had Dr. Finklestein not suspected tuberculosis and had he not made the report, as required under the *Health Protection and Promotion Act*, by the time Public Health officials became aware of a problem, the disease could have spread much further. It underscores the importance of strong reporting obligations on doctors and hospitals and of establishing strong relationships between front line health providers and health care institutions and public health.

Few things are more important than the ability to investigate reports of an infectious disease immediately and timely contact tracing and communication with contacts. As will be seen below, one missed case has the potential to spread an infectious disease to many others, compounding the risk for further transmission.

Transporting Mr. M back to Hospital: One EMS Story

One of the patients who was exposed to SARS as a result of contact with Mr. T while in the emergency department at Scarborough Grace on Friday, March 7, and the morning of Saturday, March 8, 2003, was Mr. M, a 76-year-old man who presented at the Scarborough Grace emergency department on Friday, March 7, 2003, for a suspected heart attack. He spent approximately 12 hours in the observation room in the emergency department, in the bed next to Mr. T, during which time Mr. T was ill and infectious. Mr. M was treated at the hospital and discharged home on Saturday, March 9, 2003.

On Sunday, March 16, 2003, Mr. M returned to the Scarborough Grace Hospital via ambulance. He had respiratory symptoms and a fever. Although he had been identified as a contact of Mr. T, the paramedics who treated him and transported him to the Grace Hospital told the Commission that they were not notified of this possible exposure prior to attending the call. Paramedics said that although they were aware that cases of atypical pneumonia had been reported in Toronto, they did not know that Mr. M had been identified as a possible case.

It was their own perceptive response, combined with the information provided by Mrs. M, that guided them in their handling of Mr. M. Although they ultimately used respiratory precautions, they were unaware of the potential risk until after they had started to deal with Mr. M in his home and they had a period of unprotected exposure. One of the paramedics describes their initial response:

> It may have been the 16th or it may have been the 17th, but there was a memo circulated about atypical pneumonia. This memo had been circulated by Toronto EMS about atypical pneumonia. It outlined some of the symptoms and said if you come into contact with someone like this, put on an N95 respiratory mask, which I am sure you have heard of. It was a basic memo. On top of that, there had been some news stories. So I had some awareness of something going on in China and there were some people that had died in Toronto that were linked. Most of it was from the news media. So I go to this call of shortness of breath and we get an update on the way in about the memo. We are always paged; we carry pagers and we get updates. So it was shortness of breath, possible pneumonia, gives us the age of the man and stuff like that, so we respond to the call.

> We get there and we arrive at the call and there is a gentleman in the apartment sitting down who does not look well at all. The initial impression is very important in our business, and his wife is relaying to me a very good history, which is unique; we usually do not get good history, we usually have to dig for them. And we were told about our patient being in the hospital on March 7th for a heart problem and he was in bed next to [Mr. T] and she knew that this patient had died … So at that point, she has told us this story and right away some alarm bell goes off, that extra sense that there is something not right here. I did not have a mask on at that time and I said we need a mask. Everyone in this room needs a mask as soon as we can get one on. We masked our patient right away with an oxygen mask. This is all that we could give him because he needed oxygen therapy.

As one of the paramedics noted, they "went in blind to a very dangerous situation." After Mr. M's contact was identified to them by Mrs. M, they were able to take precautions and manage Mr. M in a way to try to minimize their exposure:

> We decided since the proximity of the hospital was very close, we would limit any invasive procedures because we are dealing with potential infectious agent and we thought that things should be carried out in an isolated environment. So the patient is on the stretcher, down to the vehicle, and we are on the way to the hospital. Short transfer to the hospital, really nothing eventful during the transport, we got our masks on at this point. I am in the back with the patient, my partner is in the front. He has done a couple of things on the way over. He has radioed Scarborough Grace Hospital to say we are on route with an infectious case of atypical pneumonia and you know be prepared for us and have an isolation room ready. He has also radioed for our supervisor to come there to deal with the infectious disease reports.

Because Mr. M had been identified as a contact of Mr. T while in the emergency department, Public Health officials understood the importance of protecting health workers who were in contact with him. Dr. Bonnie Henry said that Public Health officials did alert dispatch to the exposure to Mr. T and that it was the understanding of Toronto Public Health that these paramedics would be instructed to use protection:

Question:	The EMS who attended the [M.] call, they both got sick, and our understanding is that they were not noti-

fied about previous contact so they walked into the house without any masks.

Dr. Henry: That's not quite true, we talked to the dispatch desk.

Question: Who did you talk to?

Dr. Henry: The one desk, the dispatch desk, so EMS themselves were notified …

Question: But you don't know if dispatch notified those two?

Dr. Henry: No, that's their …

Question: Because they both said …

Dr. Henry: All of them, there was a notification that went out to everybody in EMS, prior to the, [EMS names] going to the [Ms'] house, about the …

Question: There was a specific connection, not identifying [Mr. M]?

Dr. Henry: But there was a general notice that went out to all paramedics about wearing masks. And when we heard about [Mr. M] we notified EMS specifically about picking him up, and he was brought in in precautions.

Despite Dr. Henry's understanding that they would be alerted, both paramedics told the Commission that they were not told prior to going into the M. home about Mr. M's exposure to Mr. T.

Both paramedics and a firefighter who attended the call became ill with SARS. One of the paramedics spent three days in the intensive care unit and was transferred to Mount Sinai Hospital, where he remained until April 10, 2003. As he spoke to the Commission he was thankful that his family did not become ill, and appreciative of the care he received at Mount Sinai and the support he received from his local public health unit and from his employer, EMS:

> No one in my family got ill and I was thankful because that was my number one concern during my stay at the hospital … The whole response from Mount Sinai [Hospital] and Simcoe Public Health was tremendous and in fact, I had tremendous support and my wife had tremendous support from the management staff at Toronto EMS as well too.

But the impact of SARS lingered after his health began to recover. As he told the Commission:

> I was having a lot of problems, basically the whole time in the hospital, I had a lot of time to think about how I got sick and realized my job almost killed me and trying to figure out how I balance my job's danger with keeping my family safe, so I really hated my job; I was mad at my job, I feared my job, I had a lot of emotions and those were things that were not going to go away. In fact on the night that I went back to light duties, I had nightmares about my youngest daughter dying.

The Commission accepts the evidence of the paramedics that they did not know prior to entering the home of Mr. and Mrs. M that they would be treating a patient who had been in contact with Mr. T, the first patient to die in hospital from atypical pneumonia, later known as SARS. The Commission also accepts Dr. Henry's evidence that Public Health officials tried to alert paramedics to the contact history and to the need to use personal protective equipment when dealing with Mr. M.

The story of the paramedics underscores the importance of ensuring that front-line health workers are notified of public health risks in a timely and effective way. There must be clear lines of communication and clear lines of accountability for transmitting important information to front-line staff. Otherwise, in the heat of the moment, in the chaos of a developing crisis, it is all too easy for things to be missed and for honest but unfortunate errors to occur. As we see time and again throughout SARS, the strongest protection for worker safety is a combination of a strong worker safety culture, including access to and training with respect to the use of personal protective equipment, with open, clear and timely communication.

Mr. M returns to the Grace – More Transmission in the Scarborough Grace Hospital

On Sunday, March 16, 2003, once Mr. M was admitted to the Grace Hospital, he was admitted into isolation and the staff who cared for him wore personal protective equipment. However, not all staff who were working in the emergency department were aware of his exposure to Mr. T and of the need to use precautions when handling Mr. M. One nurse, who was working the night that he came into the emergency department, said that she did not know that Mr. M was a contact of Mr. T and that when he initially presented, not all staff used personal protective equipment. As she told the Commission:

> We weren't told this patient was coming, so the hospital was not prepared for this patient until he was actually in our emergency room. He was already being triaged by the nurse who was not protected … it wasn't until we found out who he was and where he was in the hospital prior, that the whole emergency department put masks on … I had contact with his wife and it was quite an extensive conversation, relatively close, not in a protected area, just out in the emergency area. I had no mask. I didn't know who she was. She wasn't identified. The ambulance attendants didn't say that family was coming, so I had no idea who this person was until after a 15 minute conversation with her.

Other emergency room nurses recalled wearing masks when Mr. M arrived and being alerted to who he was and to his connection to Mr. T. One nurse recalled the ambulance attendants warning them about his contact history:

Question:	And when he came in, did you know that he was likely SARS?[132]
Answer:	Yes, somebody, from the ambulance was already telling us this, could be SARS, because of the symptoms. But at the time we didn't even know exactly what SARS was, but because of all the rumours, I think we were not using gowns yet, but most of the time, we always use gloves but I don't remember us wearing gowns yet. I think we used masks, but not the N95, just the surgical mask.

As noted above, the ambulance personnel who transported Mr. M told the Commission that they did alert the emergency department that they were coming with Mr. M and did provide information about his contact history. The absence of a clear system and path of notification makes it difficult in hindsight to determine where precisely the communication broke down. What is clear, though, is that again people were doing the right thing and trying to communicate but that the lines were not clear and there was no notification or warning system to ensure that important information was received and disseminated in a timely manner.

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[132] Although the word "SARS" was used during these questions and answers to describe the events around Mr. M and his admission, at the time of Mr. M's admission the word SARS was not being used in communication about cases in Toronto.

From emergency, Mr. M was admitted to the intensive care unit, where he remained in isolation and continued to be managed with precautions. But Mr. M's condition continued to deteriorate and on March 17, 2003, he required intubation. Although the staff present for the intubation took all precautions, it proved to be insufficient. As the Naylor Report observed, anxiety about the infectivity of SARS magnified when the physician who intubated Mr. M,[133] along with three nurses present at the intubation, became ill with SARS:

> … Anxieties about the infectivity of SARS were understandably magnified by this incident, especially when three nurses present at the intubation were also infected. Intubation procedures, a significant source of droplet production, would be a recurring cause of SARS transmission during the outbreak.[134]

The physician who intubated Mr. M recalled that although staff wore protective equipment, including a mask, gown and gloves, the mask was a regular procedure mask, not the fitted N95 respirator that later became the standard for SARS. He also recalled that he was not wearing goggles, but rather was wearing his own eyeglasses. As he noted, staff wore the equipment that was available at the time. Guidelines for high-risk procedures and the mandatory use of Stryker suits had not yet been developed, and the state of knowledge in respect of the risk posed during an intubation was not yet known. Unfortunately for those staff involved in the intubation of Mr. M, the lessons learned were costly, affecting their health and the health of their families. Not only did three nurses and the physician became ill but, in every health worker's worst nightmare, the physician who intubated Mr. M unknowingly passed SARS to his teenage daughter. Thankfully, all those who became ill during the intubation, including the physician's daughter, recovered from SARS.

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[133] Although post-SARS reports identify this intubation as the likely source of exposure for this physician, this physician told the Commission that he had began to feel unwell before the intubation and that his source of exposure may have been earlier, as he was frequently in the ICU, where we now know there were a number of staff exposed to SARS.

[134] Naylor Report, p. 26.

Although Mr. M had been identified, isolated and handled with precautions, no one focused on the possible exposure of his wife, Mrs. M. Consequently, while precautions were taken with her husband, they were not taken with her.

Emergency department staff interviewed by the Commission did not recall Mrs. M wearing a mask. One of the nurses who dealt with her in the emergency department recalled that Mrs. M was instructed to wear a mask when in the room with her husband but was not required to do so when outside his room.

Dr. Henry said that although Toronto Public Health had identified Mr. M as a contact before he went to hospital on March 16, no one knew his wife was ill as well:

> [Mr. M], it was very early on, so after we put out the press release that evening, his wife called us and we called her at the time that she was waiting for the ambulance to come because he was really sick, and so we notified EMS as well as the facility, and he was brought in in precautions. What we didn't realize is that she was ill. And I don't think anybody realized it, and she spent, I think it was 29 minutes in the emergency waiting area filling out the forms and sitting until they were ready for her to go into the room. And when she went into the room, not negative pressure but the one single room in the emergency department, the nurse who was in with Mr. M realized that she wasn't well and said, here, sit down, you better stay in here.

Between March 16, 2003, and March 21, 2003, Mrs. M and other M family members spent considerable time in the intensive care unit. While in the ICU, when not in her husband's room, she was not required to wear a mask. She and other family members moved freely about the unit, unmasked. One Scarborough Grace physician recalled being in the ICU during this period of time and seeing M family members:

> For a couple of nights I saw them, they were all clustered in the little waiting room outside the emergency, outside the intensive care unit. So I think several of them got sick … No one was wearing masks. There are all these people in the sitting area, they're all just there and it's very crowded. It's like a little it's like half the size of this room with a bunch of couches and then everyone with relatives in the ICU would sit there and

> sometimes stay overnight … And no one wore masks then.

Neither the emergency room staff nor the ICU staff who dealt with Mrs. M wore any personal protective equipment. At this time the infection control practices had not been elevated to the level that all contacts were being quarantined and protective equipment was being used for all patients and visitors.

Dr. David Rose, the infectious disease specialist at the hospital, said that he did not recall requiring Mrs. M to wear a mask and that at that time it was their understanding that only those who were symptomatic were a risk for transmitting the disease. He said that they did not know at this time that Mrs. M was also ill. As he explained to the Commission:

> Question: When [Mrs. M] in the ICU, was there discussion to have her use personal protection equipment when she was visiting?
>
> Dr. Rose: When she was visiting in the ICU, you mean?
>
> Question: Yes. Did you ever have a discussion with staff, or did anybody make that an issue?
>
> Dr. Rose: I think it came up, I vaguely recall there was some discussion about it. At that point in time, again to the best of my recollection, [Mrs. M.] wasn't yet symptomatic herself. But I may be wrong about that, I clinically was never involved in evaluating [Mrs. M.] or her illness, or in evaluating [Mr. M], although I was involved with his illness. I don't know when she became symptomatic. And again, at that particular stage, I don't think we, as I recall from the transmissibility of it, it is not transmissible in the pre-symptomatic period anyway, as it turned out. So, I think there was some discussion about it but I think, first of all, at that time we still had a fairly full ICU and we were reluctant to single people out as visitors. Either we were going to take precautions with everybody, even those who had no connections, but there was some discussion about it and the decision at that time was it

> wasn't necessary. In fact, it would have been a smart thing to do. You know, not only to gown and mask for staff dealing with patients, but as it came to pass with staff dealing with staff at the nursing station and the cafeteria and everywhere in the building, and for visitors as well.
>
> We don't know how big a problem visitors to the hospitals are. We certainly learned from SARS that they can be a problem. There is no reason to think that, for example, a visitor with undiagnosed tuberculosis could spread tuberculosis to other patients and health care workers too. And tuberculosis is an illness that is often not much of an illness, that there are people who are not desperately ill, they can be very, very functional, going to work every day and looking after families, and highly transmissible, but well. But we still don't control for visitors or record who they are or what they are. That may be one of those fluky situations, where somebody acquires it from a visitor. How do you ever track that. It would be impossible.

While doctors and health workers struggled to save Mr. M no one knew the risk that Mrs. M might pose, despite her having clearly had contact with her husband. Even when Mrs. M was noted to be unwell, it was not initially suspected that she might be infected with the same disease that was making her husband so ill or that she posed a risk to other patients, visitors and staff. One ICU nurse recalled thinking that Mrs. M was simply tired because she had been up all night with her husband, worrying about him. One of the emergency room nurses recalled seeing Mrs. M in the emergency department and that at that time it was thought that she was simply overheated from wearing a gown and mask:

> On Wednesday [March 19], his wife was visiting him and had a fainting spell. So she came over to emergency, because we still weren't using masks or anything at this time. So I did a cardiogram on her just to make sure it wasn't her heart or anything that had made her faint. They basically just concluded that she just got overheated, because they put him on isolation, and they just figured she got overheated wearing the

> gown and the mask and being in the small room, that she just got overheated and fainted.

Dr. Finklestein recalled Mrs. M being unwell. He said that he saw her twice, but he recalled that when he saw her she did not have a fever, which was thought to be one of the symptoms of SARS. As Dr. Finklestein told the Commission:

> Dr. Finklestein: … [Mrs. M] I saw once or twice because she was just not looking well, out of courtesy to the family, and she had not yet developed a fever, and at some point we'll talk about the level of infection control practices as they go up … She did not develop a fever and I saw her a couple of times that week and I understand she got admitted to the hospital the day after her husband died, on the 22nd, and was transferred down to Mount Sinai, again no isolation beds. So she did come to see me as an outpatient and I would have seen her in the emergency room, so she would have been in the waiting room, which is where some spread happened.
>
> Question: Waiting room for emergency?
>
> Dr. Finklestein: She would have been waiting to see me, before she got into a room. And I said put her in room 5, I remember seeing her in room 5 a couple of times, probably twice.
>
> Question: This is in ICU?
>
> Dr. Finklestein: No this is while her husband is in ICU, I was trying to help her, over "you know, doc, I am feeling lousy," well, at that point the advice I had been given was, unless the chest x-ray is abnormal don't worry too much, I mean just keep them isolated at home, that's where we were at that time.

On Friday, March 21, 2003, Mr. M died. He was the third person in Ontario to die of SARS. One of the family members recalled that day and expressed thanks to one of the nurses who was particularly kind:

> The nurse who looked after Dad was amazing … She was amazing. She was, you know, always with an affectionate touch. We were there with Dad when he passed away. She helped us, and I am grateful for that opportunity.

In the face of fear and uncertainty about this new disease, ICU staff such as the nurse described above continued to provide constant, compassionate care. It is stories like these that emphasize that the true strength of our health system lies in our front-line health workers, whose dedication and care provide some measure of comfort in a family's darkest hours.

In the meantime, Mrs. M remained unwell and on Saturday, March 22, she was assessed for possible SARS. Although the initial emergency room physician did not diagnose SARS, she was later assessed by a Public Health physician, Dr. Henry, and by Dr. McGeer from Mount Sinai Hospital, who were on site at Scarborough Grace Hospital.

Dr. Henry said that after they spoke to the daughter and discovered that she too was unwell, she and Dr. McGeer arranged for the family to be admitted to Mount Sinai Hospital. As Dr. Henry told the Commission:

> … so I talked to her [Mrs. M's daughter], and Allison [Dr. McGeer] came up and we made arrangements. We said we are really concerned, we are not sure what's going on and this is what it is about, and she herself [Mrs. M's daughter] was not feeling well either, so we made arrangements for both of them to be admitted to [Mount] Sinai. They asked, and we said well where do you want to go, what hospital would you like to go to. They wanted to go to [Mount] Sinai, so we had them admitted to [Mount] Sinai.

Later that day, on March 22, 2003, Mrs. M and her daughter were both admitted to an isolation room at Mount Sinai Hospital.

Tragically, despite all treatment efforts, Mrs. M died on April 12, 2003.

Post-SARS, an article in the *Canadian Medical Association Journal* described the transmission of SARS on March 16 in the emergency department as follows:

> On Mar. 16, at least 16 people became ill after exposure to case B and his wife in the emergency department. Factors that may have contributed to the transmission include the proximity of the patients, the movement of the nursing staff among the patients and the movement of symptomatic family members within the emergency department. Although there may have been fomites and airborne spread the fact that all of the people who became ill were exposed when known symptomatic people were in the room makes this less likely.[135]

As the transmission report included earlier in this chapter showed, seven emergency room [ER] visitors, two ER patients, one hospital staff, three ER nurses, two ER clerks, and one housekeeper all contracted SARS through their exposure to Mrs. M. One of the visitors and one of the patients exposed to SARS while in the emergency department on March 16 later died of SARS. These health workers, visitors and patients went on to spread SARS to other household contacts and close contacts. And so the chain of transmission continued.

The impact of the failure to isolate Mrs. M had consequences beyond the exposure and infection of some 16 people. Many of the people infected through their contact with Mrs. M went on to expose others to the disease. One of these others, a member of a large religious group, contracted SARS and exposed hundreds of people to the disease, setting off what was to become one of the most significant transmission events during SARS: the exposure of the BLD group, described later in the report. And so the chain of transmission continued.

For the family, the impact of SARS was unimaginable. Mr. and Mrs. M's son and daughter both contracted SARS, although both survived their illness. They were left with the devastating loss of both parents within less than a month.

In hindsight, we now know that had Mrs. M been required to use protective equipment at all times while in the hospital, the spread of SARS to others through contact with her could have been prevented. Even after Mrs. M began to experience symptoms, she was still allowed to visit the ICU and was in the emergency department without precautions.

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[135] Varia et al., "Investigation of a nosocomical outbreak of SARS", p. 291.

The problem was not that doctors were ignoring the risk she posed; it was that they didn't know it. They did not realize that she too could be ill with this unknown disease and that even though she was not seriously ill at that point, she could be highly infectious. The importance of using protective equipment whenever in contact with a possible SARS contact had not been identified.[136] There were no clear directives for handling suspected patients and contacts, the infectivity of the disease was still unknown, and no one knew how vulnerable to exposure unprotected patients, visitors and health workers really were.

One health worker told the Commission how this missed case, which would become a major source of transmission, happened:

> I was angry about the M's. We already knew we had SARS. The family was allowed to visit more. She was upstairs. They allowed her to go home. She was visiting one day and she collapsed. We took her to emerg ... We knew he had SARS but the family was allowed to visit more, even his extended family. We thought we had enough information, we were isolating him and doing the right things, so we let the family in a bit more and that is where we made a big boo boo. We just got a bit lax with the visitors ... We knew [Mrs M] had been sitting with him whole time in emerg. We knew he had SARS. The likelihood of her having SARS was high. She was ill when she collapsed and was sent home. I think we missed her. We knew that she had never left her husband.

The Commission accepts that had Scarborough Grace fully known the risk Mrs. M posed to other patients, visitors and staff, the hospital would have taken steps to minimize that risk, through isolation and the use of personal protective equipment. The Commission accepts that the failure to isolate Mrs. M and to use protective equipment reflected a lack of knowledge on the part of everyone about SARS.

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[136] A March 18 letter from MOHLTC to physicians recommended the precautions to be used with suspect and probable patients.

But one of the problems seen time and again throughout SARS was not just a lack of awareness of this disease but a lack of preparedness for any new infectious disease. There was no plan in place to respond initially to the identification of a new infectious disease, which would include well-considered policies for the use of protective equipment for staff, visitors and other patients, visitation tracking or restrictions pending further investigation of a public health risk, and robust infection control practices with respect to all contacts of a potential case. Rather than a system, that had a clear and well-known plan to institute a high level of protection and to scale back as more became known about the disease, the opposite was in place. As the outbreak unfolded, as experts and public health officials learned about the disease, front-line health workers repeatedly had to adjust their level of protection in response to each transmission event.

And the lesson of the importance of limiting exposure through visitors, who themselves might be ill if they were contacts of a SARS case, although learned, was learned at a very high cost.

A Second Wave of Transmission in the Emergency Department

When Mrs. M was in the Scarborough Grace emergency department on Sunday, March 16, other patients and visitors were exposed to SARS. Among the seven visitors and one patient who were exposed to SARS and later became ill with SARS, two passed away.

One of the seven visitors who contracted SARS through exposure on March 16 in the emergency department was a 39-year-old man who was simply accompanying his daughter to hospital. Mr. K[137] became ill on March 18, 2003, and visited Sunnybrook Hospital on March 18 and 23. Unaware of his exposure to a SARS contact, he was sent home on both occasions. He returned to Sunnybrook Hospital on March 28, 2003, at which time he was admitted to the ICU. Staff remained unaware of his contact and previous visitation to the Grace Hospital. Consequently, he was admitted to Sunnybrook without precautions. His symptoms worsened and on March 31, 2003, he was transferred to the intensive care unit. He was put into precautions in the

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[137] This case is no relation to the case of Mrs. K, the index patient whose story is told earlier in the report. As noted earlier, the initials of patients have been changed (the initial "K" is not the actual initial of this patient).

ICU because of concerns about SARS and because of information, provided by his wife, that he had visited the Grace Hospital. Although his contacts were quarantined and no one else became ill, this case had the potential to spread the disease through Sunnybrook Hospital. Mr. K died on April 30, 2003.

A patient who contracted SARS on March 16 in the emergency department at Scarborough Grace was a 99-year-old woman, (referred to as Mrs. L) who arrived at the Grace emergency room on March 15, 2003. She remained in emergency until March 17, 2003, when she was discharged home. While at home, she was in contact with her family. Her family, many of whom had been at the Grace to visit while she was in the emergency department, continued to go about their daily lives, unaware of their own possible exposure or the exposure of their mother.

Mrs. L became ill and presented to Sunnybrook Hospital on March 23, 2003, with fever, cough and shortness of breath. She was admitted to Sunnybrook Hospital. But it was not until many days after her admission at Sunnybrook Hospital that her family received any contact from Public Health. In the meantime, her family learned about the need for them to enter a 10-day quarantine period from the news. Toronto Public Health reported to the Commission that she was not identified to them as a possible SARS case until after her death, on April 18, 2003. But this begs the question of why she was not identified as a SARS contact. The chronology shows that by April 18, almost a month after Mrs. M was identified as a SARS case, the overwhelmed and unprepared system had still not identified all of Mrs. M's contacts. This was not for lack of effort on the part of Toronto Public Health, but, as the number of cases multiplied daily, it became harder and harder to identify and follow up all contacts with the available resources.

Thankfully no other family members developed symptoms. But had they been ill and had not self-quarantined, they could have exposed countless others to the disease. As one family member told the Commission:

> We would all feel safer if there ever is another outbreak where there should be quarantine for any reason, if they would put it into play immediately and do it properly. Everyone would be very happy to know that, because there are a lot of risks that, thank goodness, didn't play out, but could play out.

Mrs. L remained at Sunnybrook Hospital until she died on April 17, 2003. Described by her family as "one of the nicest people you would want to know," she had 30 grandchildren and great-grandchildren. She died five weeks short of her 100th birthday.

Transmission in the CCU at Scarborough Grace and to York Central Hospital

When Mr. T and Mr. M were in the emergency department the night of March 7, 2003, so too was another patient, Mr. H, the second patient who contracted SARS through contact with Mr. T. As will be seen below, however, unlike Mr. M, Mr. H was not identified to staff as a contact of Mr. T. Before his contact was finally identified, 15[138] people were exposed to SARS at Scarborough Grace Hospital alone and SARS was spread through the transfer of Mr. H to York Central Hospital, where nine patients and staff were infected with SARS, resulting in the closure of York Central Hospital on March 28, 2003.

Mr. H went to the emergency department at the Scarborough Grace Hospital on March 7, 2003, for cardiac problems. He spent several hours in a bed across from Mr. T. He was admitted to the coronary care unit, 3D, from March 8 to 10, and then discharged home on March 10, 2003. But once home he continued to be ill and he returned to the Grace on March 13, 2003, at 11:00 p.m. He was admitted to the coronary care unit (CCU) of the Scarborough Grace Hospital with a diagnosis of acute coronary syndrome. CCU staff, unaware of his exposure to Mr. T, did not use any precautions when caring for Mr. H or while in his room. Although he was admitted to a private room, Mr. H was not isolated and was not placed in a negative pressure room.

On March 16, 2003, Mr. H was transferred to York Central Hospital for dialysis. No one at York Central Hospital was aware of his contact with the index case or that SARS was spreading through the Scarborough Grace Hospital.

As the days progressed, York Central was left unaware of the fact that it now had in its hospital a patient who had been in contact with the SARS index case at Scarborough Grace Hospital. One York Central official described the problem to the Commission:

> Scarborough Grace, or at least the City of Toronto health department, apparently had a press conference on the 14th of March. That was on a

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[138] The exact number of staff and patients who became ill and from whom is unclear as SARS was spreading throughout the Grace at this time and other patients and visitors were ill. For example, the transmission chart referenced earlier, shows the physician as contracting SARS from a CCU clerk, yet this physician also had unprotected contact with Mr. H.

> Friday; Mr. H was transferred to us … and there was never any warning. I mean, if you think through the steps, it would seem logical that on the 14th of March, when you become aware of the fact that you may have an outbreak of a threatening infection at Scarborough Grace, that at least an interim measure would be to say stop transferring patients out of this hospital. If you do not do that then the next step would be at least warn the hospitals who you are transferring to that there is a risk of a problem and they should keep this patient in isolation or they should at least keep an eye on them for that or, failing that, when Scarborough Grace was finally closed about a week later, I think the 23rd of March was the date they decided to close it, even if they could not logistically trace all of the patients who had been transferred out of Scarborough Grace, a simple warning to other hospitals in the GTA of if you have received a patient from Scarborough Grace on the 14th or whenever they thought was the outbreak to please check your transfer to see if you did receive a patient to please notify Public Health. If any of those things had happened starting obviously from the beginning on the 14th, if they had not transferred patients out, we would have been spared this entirely, so any of those seem to me as logical and straightforward steps to take. The impact to this hospital would have been greatly minimized.

One of the big questions that remains post-SARS is who knew what, when, about Mr. H? How could a contact of the first case at the hospital not be identified until almost three weeks after the initial contact between Mr. T and Mr. H?

As noted above, with the realization that Mr. T had been in the emergency department for over 16 hours before he was admitted to hospital, the next task was to identify those patients, staff and visitors who might have had unprotected exposure to Mr. T during the period between his entry to the hospital and his isolation, at approximately 6:45 p.m. on Saturday, March 8.

Between Friday, March 7, and Saturday, March 8, Dr. Finklestein said, infection control worked very hard to figure out which patient was where on the night of March 7, but it was not an easy task. While it was easy to say who had been in seen in the emergency department that night, recreating which patient was where and at which times, in a busy emergency department, was no small task. As he told the Commission:

> I recall at a certain point, and unfortunately I don't know when, [the infection control coordinator] telling me, we're trying to recreate the

> emergency room at the time, who was where, when. It's easy to take a chart and say, you were here at this time. It is difficult to go back and recreate who was where, when. So I recall that they were trying to do that she did not have the resources to do what she had to do.

Although Mr. H was a contact of Mr. T in the emergency department, there was no system in place to flag Mr. T's contacts as they re-entered the hospital. Dr. David Rose explained how Mr. H was initially missed:

Question:	When you identified a list of patients through Public Health who had contact with Mr. T in emergency, was there a process in place that allowed the hospital to identify those patients when they came back into the hospital? For example, you provide a list to Public Health and say, these patients were near Mr. T. What process was there to make sure none of those patients came back in?
Dr. Rose:	Came back in to us, or came back in anywhere?
Question:	Came back in to you.
Dr. Rose:	… The answer to your question about tracking people for readmission is that it can be done, but I am not sure that it was necessarily automatically flagged. I don't know that there was or even is a simple system in our information system to identify an individual as having been readmitted. In other words, if you identify by some process, a contact, and I have to admit I am not, even years later, entirely familiar with the workings of the information system in terms of location of individuals within the hospital, that is something the infection control practitioners get very slick at, and I haven't had to do and haven't learned myself. I am not sure if they identified that you and I were in the emergency department on the same day and I went home and you were admitted and then I came back, that having identified that contact, that two weeks later it could identify that I was back in hospital one week after that contact. You follow me?

Question: Yes, but just from a simple system, let's take Mr. H for example, Mr. H is in the bed close to Mr. T. Sometime the week following, there is a list prepared for Public Health of Mr. T's contacts. Mr. H is on that list. Why, when Mr. H comes back to the hospital with febrile symptoms, why doesn't anything twig that he was with Mr. T in emergency? Where was the link there?

Dr. Rose: Well, I guess one of the issues with that particular scenario was timing, but it was very unfortunate timing. Mr. H was in emerg on the 7th and I think admitted and sent home on the 12th [Mr. H was sent home on the 10th]. I don't know if my dates are exactly accurate, but I think they are close. And then came back to emerg, the 13th or 14th. When the initial contact lists were being prepared they were contact lists for the 7th. So, who was Mr. T in contact with on the 7th in the emergency department and wherever Mr. T happened to travel, so he was the link. Who was in contact with him on that date and over the next 24 hours or so? One of those individuals was Mr. H. It is another sequential step to say, what had now happened to all of those individuals that Mr. T was in contact with. It's another level of investigation to see where all of those people have gone, who is at home, who is back in the hospital. We would only know if they were back in the hospital. And that, I don't know if that was done or when it was done. So, in truth [Mr. H] escaped that second level of contact tracing. Who was the contact in contact with, and where are they now?

What was missing was a system to go back into the hospital's patient records and check each patient who was identified as a contact of Mr. T to ensure that none of them had reentered the hospital and, if a patient was identified as re-entering the hospital, instituting isolation and precautions until the disease could be ruled out. Mr. H's case fell through the cracks in the system.

Because Mr. H's readmission to hospital was not linked to his previous contact with Mr. T, staff caring for Mr. H had no idea that he was exposed to the patient who had died from a new and serious illness in their hospital on March 13. The cardiologist who cared for Mr. H, who contracted SARS through his unprotected exposure to Mr. H, told the Commission that he had no knowledge of Mr. H's exposure to Mr. T and that his symptoms were thought to be the result of his underlying heart problems. This physician later learned that Mr. H had been exposed to Mr. T, but he did not know this critical piece of information until much later, some time after Mr. H was identified as SARS at York Central Hospital and after this physician himself was ill with SARS:

Question: It was a gentleman who was on the cardiology unit, admitted to hospital. Do you remember?

Answer: I remember that in retrospect, in looking back at the infection, this individual was in the emergency room at the time of the admission of, [Mr. T], the son of the lady who may have got infected in Hong Kong. My patient and this male patient were in the emergency department at the same time in adjoining cots, adjoining stretchers. The young man went on to be admitted to the intensive care unit and subsequently he died. My patient was discharged from the emergency room at that time. It was felt that his cardiac problem was not urgent. The patient then was readmitted to the emergency room five or six days later ill. The first impression was that he was ill because of a worsening of his cardiac problem and he was admitted to the cardiac care unit. He was not placed in isolation. Myself and several of the nurses in the cardiac care unit cared for him in a very close basis and I believe that was when I contracted SARS. That individual subsequently was transferred to another hospital and subsequently died.

Question: He went to York Central Hospital.

Answer: I believe that was where he went.

Question: And when did you become aware of the contact he'd had with the index patient in emergency? Is that something you learned after the illness or something you knew prior?

Answer: After the illness.

Question: Okay. So when you were caring for him when he was in the cardiac care unit, you didn't know at that point that he had been in emergency with someone who was previously …

Answer: That's correct. There were no infectious suspicions whatsoever. He was just treated as an individual who was in heart failure. I think that was the diagnosis that we had for him at the time. There was no indication to us that he had an infection and therefore there were no precautions taken.

Because the health workers on the coronary care unit did not know Mr. H's contact with Mr. T, none of them had any reason to think there was anything unusual about Mr. H. As one of the nurses said:

> I remember thinking he probably has pneumonia. But a patient in that condition having pneumonia is par for the course. It's very, very common so I never thought anything of it.

When Mr. H was transferred to York Central Hospital on March 16, 2003, staff had no reason to suspect that he was ill with an infectious disease and did not know that he had been in contact with Mr. T. Hence no warning was given to York Central Hospital. As Mr. H's doctor told the Commission:

Question: And he was transferred to York Central Hospital on March 16th. So would you have been involved in his care between the 13th and the 16th?

Answer: Yes. Yes, I would.

Question: And so when he's transferred to York Central, none of you are aware of his contact and he, at that point, isn't showing signs other than what you believe to be a cardiac problem.

Answer: That's correct.

On March 18, 2003, Toronto Public Health staff attempted to contact Mr. H as part of the contact tracing. A Public Health employee phoned Mrs. H, who reported that her husband was in York Central Hospital. Recall that by March 16 Public Health had identified approximately 500 contacts of Mr. T. Dr. Henry told the Commission that at the time they were following up with contacts, they were trying to identify those people who were ill. Although it was identified at this time that Mr. H was back in hospital, there was nothing in the information from the H family that suggested that Mr. H or other family members were ill with an infectious disease:

Question: Mr. H comes back in and on the 18th it is learned that he is at York Central, back in hospital at York Central, and yet he doesn't get identified until late March. So there is a period of a couple of weeks, perhaps even though he is picked, he's right there in emerg with the index patient at the hospital and he's known as early as 16th, certainly by the 18th. What can you say about this? Is this a guy who did fall between the cracks? Is there any explanation that would explain this period from mid …

Dr. Henry: When was York Central closed? Yes, Friday night, the 28th. So this one that you have given me, the Toronto Public Health contact sheet was, as I mentioned earlier, we had a division of labour with the hospital, so people who were discharged from the hospital, Toronto Public Health followed up with. So we had this person on the discharge list, and we called him and found out, spoke with his wife on the 18th, and found out that he is actually in York Central Hospital due to kidney trouble. We asked the people that we followed up, if they had any of the complaints that were concerning to us about SARS.

That's the part on the bottom, and the answer was no to all of these.

Question: So for [Mr. H], the family is telling you he is at York Central and he's on oxygen due to kidney dialysis?

Dr. Henry: And that he was admitted to the ICU for kidney disease.

Question: Okay, this is on the 18th?

Dr. Henry: Right.

Question: And the reason why you are following is because you're following up on patients that were discharged?

Dr. Henry: So in most cases, those patients are at home, so we followed up with them. We called their homes to find out where they are. We find out when we call their homes that this man is in hospital for his kidney failure and we get this information as well for [Mrs. H, their son, and Mr. H], so we have the whole family we followed up with, because they were all presumably visiting [Mr. H] when he was in Scarborough Grace. And this was the type of followup that we did on all of the people who were contacts at the Scarborough Grace Hospital. And we found out that none of them were symptomatic at the time we talked to them. So we provided them with advice. What we were normally doing was providing them with advice. It depends when their contact was, whether it was past …

Question: When were they called?

Dr. Henry: The 18th, it looks like the 18th of March for all of them, actually. So they were on the list provided to us, we followed up with them to find out if anybody was ill. So depending on when he was in hospital, and I believe it was greater than ten days, from the 18th of March, he had been in the hospital more than 10 days prior to that. So we were case finding. We were trying to find people who were sick. So many of these people were beyond the incubation period, so we wouldn't have been …

Question:	He had been out more than 10 days before that, so you were looking for people who were sick?
Dr. Henry:	Right, we were case finding at that time. If they had been within the incubation period, we would have put them in quarantine until the end of their incubation period, so they might have been in day eight and if they were well, we would have asked them to stay home for another few days and we would contact them. But if they were beyond the 10-day period and they weren't sick, then there was no further need to do anything. Now, the second thing that would have happened though with [Mr. H] is anybody who was sent directly from Scarborough Grace to another facility, which happens all the time because they need an ICU bed or they need a dialysis bed, which is why [Mr. H] ended up in York Central, I believe, because they don't have the capacity to do dialysis in Scarborough Grace. So if they were sent directly to another hospital, all of those people were followed up directly through infection control.

This call to the family was as far as the investigation went and all that was required by the systems that were in place. Toronto Public Health understood that Scarborough Grace Hospital would notify other hospitals of contacts who were transferred. And because the H family members reported they were well and because Mr. H was outside of the incubation period by March 18 and there was nothing to indicate that Mr. H and his contacts had developed SARS symptoms, when they were contacted by Public Health the question of whether his hospitalization might be related to his previous exposure to SARS did not get raised.

Because the connection between Mr. H's readmission and illness and his prior contact with Mr. T in the emergency department was not made by anyone at the time, Mr.

H's continuing presence in hospital failed to raise an alarm, and no one contacted his attending physician at either the Grace or at York Central Hospital to determine his condition and to alert them of his contact with Mr. T. Tracking of contacts re-entering hospital remained a problem, with no apparent system to click into gear to perform this vital function. The key pieces did not connect: Toronto Public Health and infection control were not, as in the case of Mr. M, alerted when Mr. H re-entered hospital at the Scarborough Grace within the incubation period. Those treating Mr. H knew he was febrile but did not know he was a contact with Mr. T, so they had no reason to suspect that he was ill with SARS.

Mr. H remained at York Central Hospital between March 16 and March 28, during which time no one knew he had SARS or that he had been a contact of Mr. T, the first SARS case at the Scarborough Grace Hospital. It was not until March 28, when York Central Hospital recognized febrile illness in several ICU staff members, that the connection to Mr. H and to the outbreak at Scarborough Grace Hospital was made and that York Central Hospital became aware that they had had unprotected SARS exposure in their hospital. Fifteen staff members at York Central Hospital became ill with SARS through their contact with Mr. H and his wife, who developed symptoms and was admitted to York Central on March 21.

The consequences of the failure to identify Mr. H's SARS contact were even more devastating at Scarborough Grace Hospital, as approximately 32 people were infected with SARS, through either direct or secondary contact with Mr. H. Health workers were the hardest hit, constituting 19 out of the 32 people infected with SARS through contact with the CCU.[139] In one of the worst imaginable outcomes, a health worker would go on to spread SARS to one of her parents, who later died from the disease. Before he died he infected a co-worker, who became very ill with SARS. One patient who was exposed to SARS in the CCU went on to spread SARS to six other family members, three of whom died. Their story is told below.

Mr. H died on March 29, while an inpatient at York Central Hospital. At the time of his death Mrs. H was also hospitalized for SARS, having contracted the illness from her husband.

The Commission finds no evidence that hospital officials or Public Health knew about the risk posed by Mr. H to hospital staff, patients and visitors. The Commission further finds that the Scarborough Hospital and Public Heath officials were unaware that they had transferred a contact of Mr. T to York Central Hospital and that they were unaware of the risk he posed to staff, visitors and patients at York Central Hospital.

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[139] Varia et al., "Investigation of a nosocomical outbreak of SARS."

The Commission finds, however, that there was a systemic failure to identify Mr. H as a contact of Mr. T and to identify his readmission to hospital and his ongoing illness. There was no system in place that flagged contacts as they re-entered the Scarborough Grace Hospital, to monitor them for symptoms and to ensure that staff working with such a patient used appropriate protective equipment to protect themselves from exposure. There was also no system or process by which staff or physicians working in the Scarborough Grace Hospital could be aware of or check to determine if any of the patients under their care had been in contact with a SARS case.

The H case showed how easily an infectious disease can spread from one hospital to another and how one missed case can spread an infectious disease within a hospital and to other health care facilities. The H case showed the importance of getting ahead of an infectious outbreak at the very beginning, identifying contacts quickly, and identifying those contacts who have re-entered the health care system. It also underscored the importance of early notification to other health care facilities and clinics, to enable them to screen for patients entering their facility, either through the emergency department or through a transfer or other admission.

Protecting Staff

Until staff began to become ill in the ICU, and eventually the CCU, hospital officials believed that the possible spread had been limited to the emergency department, where Mr. T spent most of the time prior to being isolated in the ICU, on Saturday, March 8, 2003.

Dr. David Rose told the Commission that during the week of the 17th hospital officials were recommending the use of protective equipment with febrile patients, but they did not make recommendations with respect to contact with visitors or between staff. He said that at this time they did not realize that they had transmission throughout the hospital or that it included visitors and staff:

Question:	Since your return [from holidays], other patients or staff were reporting ill and there was concern that there was something going on. Were precautions stepped up in any way during that time?

Dr. Rose: Yes, yes, they were. During the week of the 17th we started recommending that contact with a febrile patient be done with masks and gloves and maybe with gowns, I can't remember, but certainly greater attention to barrier precautions and greater attention to hand washing. We didn't at that point make recommendations about contact with visitors, and we didn't make recommendations at that point, yet, about contact between staff. What we thought we were dealing with, in a limited way, of course, was a community-based outbreak in which people were sick enough to come to the hospital. And we hadn't yet perceived, through the first part of that week anyway; that we had staff-to-patient or staff-to-staff transmission, or visitor-to-staff and visitor-to-visitor and staff-to-visitor transmission. We were beginning to be aware of patient-to-staff transmission. We wanted to protect the staff, and we made recommendations around that area.

Prior to SARS, hospitals had never experienced a situation where there was a risk in the hospital and they could not identify the areas at risk or the staff, patients and visitors at risk. Never before had a hospital had to use personal protective equipment, in all areas of the hospital, at all times, to protect staff and patients. Prior to SARS, few hospitals regularly used N95 respirators. Staff had not been fit tested or taught how to properly use this type of equipment.

The physician who intubated Mr. M on Monday, March 17, recalled that at the time of the intubation he was using a standard procedure mask. He said that prior to SARS he had never used an N95 respirator and that before SARS there was not a lot of worry about contracting a disease from a patient:

Question: On Monday the 17th you'd been using the paper masks?

Answer: Yes.

Question: When did they introduce the N95?

Answer: First time I saw it was in emergency. Even the next couple of days in the OR [operating room] we just assumed, oh, whatever this was it was all contained within the ICU and that emergency was using respiratory precautions. So in the general OR we still continued to use the standard rectangular paper masks.

Question: So the first time you used an N95 was that Sunday [the 23rd]?

Answer: Yes, that Sunday evening when they gave us these masks and it looked similar to one of those masks you can buy from the hardware store when you're doing a lot of sanding or sawing to prevent you breathing in dust.

Question: And had you had any professional medical experience with the N95 before?

Answer: No.

Question: No training or … ?

Answer: No. That was the first even I heard that term and, in general, we were most sort of worried … our biggest concerns since I was in medical school were things you could get from needle pricks, like HIV, hepatitis, various types of hepatitis, other sort of blood-borne and serum-borne infections and then secondarily surface pathogens. And sometimes we'd have these patients with some colonized, with some kind of an antibiotic-resistant germ that we'd have to take all sorts of elaborate surface precautions and stuff, but they were pretty lackadaisical until then about stuff you breathed and it was just assumed that following the brief exposure, you just got the tube in quickly, as long as you just wore some sort of mask and discarded everything at the doorway you'd be okay.

For those areas who had a patient who was known to have been in contact with Mr. T, the direction with respect to personal protective equipment was much more clear. As noted earlier, the hospital initially thought that any risk of transmission was limited to the ER, 4D and ICU, areas where Mr. T had been prior to isolation. The hospital, unaware that there were other areas at risk, focused their efforts on those areas, and in particular the ICU, once Mr. M was admitted. One ICU nurse said that infection control were frequently on the unit, trying to help them with the patient, in the face of obvious competing demands for their time:

> I think [the infection control practitioner] was pulled and dragged everywhere at this stage. I mean, she was the only person. And I think she did the best of her ability …

On March 18, in a letter from the Ministry of Health and Long-Term Care, Public Health Branch, physicians were told that health workers with direct contact with a suspect or probable case were to observe the following precautions:

- Good hand hygiene before and after contact with the patient and after removing gloves
- Wear gloves, gowns for patient contact
- Wear an occlusive seal, high filtration mask (e.g. TB mask – N95)
- Wear eye protection if spraying or aerosolization of secretions is anticipated[140]

The letter also said that triage staff should ask about travel history or contact history for anyone complaining of a fever, cough or respiratory symptoms and, if the travel history or contact history was positive, immediately wear an N95 mask and make arrangements for prompt further assessment of the patient in a separate area, where feasible. Where there was no travel history or contact history, it recommended that the patient be triaged and cared for in the usual way.

Dr. Rose told the Commission that as things began to get worse, and when it became known during the week of March 20 that there was a bigger problem than anyone initially knew, they began to try to inform staff about the appropriate level of precautions to use, but that the full knowledge about the level of precautions was not yet identified. For example, staff were not told about using precautions when interacting with each other. As he explained:

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140. Letter from Ministry of Health and Long-Term Care, Public Health Branch, to all physicians in Ontario, dated March 18, 2003, re: Surveillance of Severe Acute Respiratory Syndrome (SARS) in Ontario.

> During that week, I was actually out of the hospital also on the 20th of March, with one of my kids at a school event. But during that and on the way to the event and on the way back, I was mostly on the phone with the infection control practitioner, the one of the two and half full-time people that was based at the Grace campus. And by that time, later in the week, it was becoming more clear that there was a bigger problem. I don't remember at what point during the week we started giving advisories to staff about alterations in practice. But we did recommend hand washing, for one thing, which we always do, we recommended wearing masks when in contact with a febrile patient. We didn't recommend, at that point, yet, that staff take precautions when interacting with other staff. For example, at the nursing station, the cafeteria and so on. That came somewhat later. By the 21st, I was away on the 20th, but I was at the hospital on the 17th,18th, 19th and on the 21st there was a staff meeting at the hospital that day. Dr. McGeer was in attendance, Dr. Henry was in attendance and we repeated what we thought at that time were the appropriate recommendations. We said that we were dealing with something that we hadn't identified yet from a microbiological standpoint. That we were certainly aware that there were an increasing number of staff that were falling ill, that we felt were likely related to this event. And then by the end of that week and into the weekend of the 22nd things really escalated.

As things began to escalate and staff began to hear about illness among their colleagues, some nurses took matters into their own hands, wearing masks. As one emergency nurse told the Commission:

> Question: Other than when you were dealing with Mr. T or, I guess at this point he's the only SARS patient, or his family, on your day-to-day other dealings, you weren't wearing a mask.
>
> Answer: No.
>
> Question: Okay. And no one else was in emerg?
>
> Answer: No, not that I can recall. I think it [when they began wearing masks] was more after we starting hearing more confirmation that they believed that Mr. M actually did have this pneumonia, that we, in emerg, it

was probably at the end of the weekend, started wearing masks and on that weekend, I worked that last weekend before we closed, I guess it's the 22nd and 23rd, we did start wearing masks around the emerg. I remember I put one on when I was dealing with anybody that was, probably coughing, or anybody that came in short of breath, I was putting a mask on. The triage nurse put a mask on.

Question: And was that as a result of a directive from infection control or is that just something that you …

Answer: No, that was what the nurses decided to do. And I remember there was a police officer that came in with a patient and he said to me, why are you wearing a mask? And I said, well, you will too, we don't know what the heck's going on in this place, and nobody's telling us anything, so put a mask on, and he actually did, he put a mask on, the police officer. So he sat there for the whole three hours he was in emerg with this patient he had under arrest, the patient I think just came in for stitches or something, and he had a mask on the whole time he was in there.

The above-quoted nurse said that the information they received was that it was limited to the one family and that they did not have to wear a mask at all times:

> … we asked, shouldn't we all be wearing masks? We don't know what is going on, and they were saying, no, no, it's isolated to this one family, so it's not something that's out in the public, it's just this one family, so if you are dealing with the family, wear a mask, if you are not, then you don't have to.

It was not until March 25 that the hospital announced that all staff must use precautions in all areas of the hospital. Staff were limited to working one site only. In a memo sent out the evening of March 25, 2003, the hospital said:

> As public health officials learn more about this illness, they have now stated that they expect to see more suspected and probable cases of SARS over the next several days. At this time, the entire Grace Division is in

> respiratory isolation. **All Grace Division patients are being cared for in isolation precautions and all staff must take full precautionary measures.** ALL staff movement between the General Division and the Grace Division is now restricted [emphasis in original].[141]

As the hospital and Public Health struggled to respond to this new disease, there was confusion and uncertainty. Although precautions were used with patients like Mr. T and Mr. M, they were not used at all times in all areas until March 25th. Prior to this, because hospital and Public Health officials did not realize that SARS had spread in the hospital beyond Mr. T and Mr. M, it was not known that staff working in certain areas or with certain patients might be at risk. Unfortunately, by the time the scope of the outbreak was identified and the importance of protective equipment for all health workers was clearly communicated to staff and proper equipment was provided, staff were already ill.

Even after the use of protective equipment was identified to staff, staff reported that there was initially confusion about what exactly to wear and when. As one nurse said:

> There weren't any strict guidelines as to what we were supposed to do, or things were not definite right away. It was basically all you should be or shouldn't be. It wasn't, you have to do this. It wasn't until after that, you have to wear this and you have to wear that. And I think, before that people did not know what was going on, so they were just doing whatever.

Another nurse described how once the need to use protection was identified, the directives about what to use changed daily, as the hospital did its best to ensure that the staff kept up with the changing directives, and that as time passed things did get better:

> Putting it on and taking it off, that wasn't the problem because we had been trained from the beginning how to wear a mask, and so they made sure we had more training, and the infection control officers came around, the infectious disease doctors, and our managers, they assured us if we needed anything at all, they would provide it. But, it was an ongoing learning experience for everyone. Every day there would be new direc-

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[141] Memo to all staff, physicians and volunteers, evening, March 25, 2003, from Glenna Raymond, VP Patient Services and Dr. Atilla Turgay, Chief of Medical Staff.

> tions from the Ministry, from the hospital, saying you have to do this, we were doing that, we shouldn't do that, we should do this, and with a mask and gown, I think at one time we were wearing the occlusive gowns, which don't breathe, they don't allow air to pass through your inner garments, so they got the disposable gowns as well.
>
> And they tried to make it as comfortable as possible, but everyone was learning. We'd never encountered SARS before. They suspected that it's from inhaled germs, from contact, touching them, contact, breathing it in. So, they focused on making sure that we had the right masks, that we got better masks, and then the mask fitting came in so that they realized that individually you have to have people fitted for the mask, because everybody's face is different.

As noted above, the Commission finds that there was a system-wide lack of preparedness to respond to the identification of a new infectious disease; a lack of policies for the use of protective equipment for staff, visitor and other patients; a lack of visitation tracking or restrictions pending further investigation of a public health risk; and a lack of robust infection control practices with respect to all contacts of a potential case. What was missing was a clear, practical and well-known plan to institute a high level of protection and to scale back as more became known about the disease. Instead, as the outbreak unfolded, as experts and public health officials learned about the disease, front-line health workers had to repeatedly adjust their level of protection in response to each transmission event.

More will be said about the importance of worker safety, including regular training and education with respect to the use of personal protective equipment, later in the report.

Illness Among Staff

After March 14, when it became clear that Mr. T was associated with this atypical pneumonia that had been spreading in China and Hong Kong, no one knew how far the disease had spread. Initially, the areas of exposure were thought to be limited to the emergency department, 4D and the ICU. As a result, the hospital and occupational health tried to focus their efforts on monitoring staff working in these three areas.

On Monday March 17, 2003, Scarborough Grace Hospital sent a memo to all staff advising them that health officials had confirmed late on Friday, March 14, 2003, that the patient who had been admitted to the emergency department on March 7, 2003, and had died in the ICU on March 13, 2003, was ill with travel-related atypical pneumonia. The hospital also advised staff that other family members were reported to be in good condition at other hospitals throughout the city. As for instructions to staff regarding possible exposure the hospital told the staff the following:

> We are continuing to work very closely with our health care partners and all government levels. Toronto Public Health is the lead health official on this situation and has established an information line at [number provided] the public has been asked to call if they have traveled to Asia recently, had close contact with someone who has traveled to Asia recently, and are experiencing symptoms including sudden high fever, cough, sore throat, and muscle ache.
>
> We have contacted our staff who may have had contact with the patient or his family members in Emergency, 4D Medicine or ICU from March 7-13. Our own Hospital hotline remains open for staff to provide you with information about contacting Occupational Health. The Hotline number is [number provided]. At this time, no staff or members of the community have been admitted to either the General or the Grace Division related to this outbreak but universal precautions remain in place. All units at both sites are open.[142]

On Wednesday, March 19, 2003, a memo to Scarborough Grace staff and physicians reported to staff the admission of a patient who was thought to have atypical pneumonia.

> On Monday, March 17th, the Scarborough Grace Hospital admitted in ICU at the Grace Division a patient suspected to have atypical pneumonia, along with other health problems. At this time, no staff or other members of the community have been admitted to either the Grace or General Division related to this outbreak.[143]

The patient identified in the memo was Mr. M. As noted above, because his contact with Mr. T was identified before he came back to hospital, when he was readmitted to hospital he was handled in isolation in the ICU and handled with precautions.

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[142] SGH Staff Memo, 17 March, 2003. Memo to all physicians, staff and volunteers, dated March 17th, 2003, from Glenna Raymond, VP Patient Services and Dr. Jack Stein, Deputy Cheif of Medicine.

[143] Memo to all physicians, staff and volunteers, dated March 19th, 2003, from Glenna Raymond, VP Patient Services and Dr. Jack Stein, Deputy Chief of Medicine.

In that same March 19th memo, the hospital conveyed information from external sources that the outbreak may be quieting down:

> External health officials are beginning to cautiously suggest that the outbreak is quieting down. However, Toronto Public Health continues as the lead health official, asking members of the public who have traveled to Asia recently, had close contact with someone who has traveled to Asia recently, and are experiencing symptoms including sudden high fever, cough, sore throat, and muscle ache to call the Toronto Public Health hotline at [number provided].[144]

Little did they know that the worst was yet to come.

Until staff began to develop symptoms, it was hoped that the disease had been confined to a very small number of people and that perhaps the worst was over. But as Public Health and hospital infection control tried to identify all Mr. T's contacts, one by one staff began to become ill.

By the week of March 18, health workers who had been exposed to Mr. or Mrs. M. and Mr. H began to fall ill. Within a span of one to two days, three staff members became ill from the ICU. Suddenly, it became clear that the emergency department was not the only source of exposure. Also that week, nurses who had worked with Mr. H in the coronary care unit fell ill, one by one. As one nurse described the situation:

> I knew things were, on the 16th of March, my manager was calling me in to work the 17th, 18th, 19th, they were extremely short-staffed and I knew at that time that there were other girls in the unit who were sick. We just thought we had the flu or a cold, we didn't really know what was going on. I know in retrospect now that they had caught SARS … The CCU manager was desperate for people to come in to work.

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[144] Memo to all staff, physicians and volunteers, March 19th, 2003, from Glenna Raymond, VP Patient Services and Dr. Jack Stein, Deputy Chief of Medical Staff.

Dr. Finklestein told the Commission that until staff began to get sick, no one anticipated that staff members were at risk or that they too would become ill with SARS:

> Dr. Finklestein: … So Tuesday the 18th onwards, we knew we had something going on, but we thought it was limited to spread in the emergency room and we were taking what we considered at the time to be reasonable precautions.
>
> Question: And no staff members?
>
> Dr. Finklestein: And no staff members, until [names of three nurses] all within one to two days, the 20th and 21st, developed fevers, and [name of nurse] said, Sandy [Dr. Finklestein] I've got a fever, I remember clearly and I walked her over the emerg and I plunked her down . . .
>
> Question: At that time was it, were you thinking . . .
>
> Dr. Finklestein: We didn't know, we had trouble figuring out where it was. We clued in at some point though, … that it was due to the intubation. That might have had …
>
> Question: When [name of nurse] said, Sandy [Dr. Finklestein], I have a fever, you thought, okay, we've got something going on here?
>
> Dr. Finklestein: Oh yes, no question, the fever right away was thought to be related to whatever is going on, I mean there's stuff in the news now, I mean it's all common talk, and so this is two weeks after Mr. T came in so we are a little more sophisticated at this point. So the ICU nurses went first, the 3D and CCU nurses went the following week.
>
> Question: CCU?
>
> Dr. Finklestein: Coronary care unit
>
> Question: They went first?

Dr. Finklestein: No ICU, intensive care unit nurses, they got sick between the 20th and 22nd, about four or five of them. And it wasn't, this is important, infection control procedures were [applied], when we knew we had an infection to deal with. When we were uncertain, it was those patients, those staff who got problems because we were not necessarily providing the correct infection control level. Is it good enough, I don't know, it can be any patient who walks in the street, which goes back to our first discussion about what's the right level, and you don't know, and I'll tell you, separating outbreak and non-outbreak conditions make sense. That is my opinion.

So the ICU nurses, when Dr. Don Low visited us at the hospital on the 20th or 21st, I don't remember, but it was the day [name of nurse] said she has a fever, I said, Don, give me a minute, I've got to go take care of [name of nurse], and I walked [name of nurse] over to the emergency room, put her in a room, x-rayed her, did some blood work, and she had a normal chest x-ray, so it was [name of nurse], go home, isolate yourself at home, mask whenever you have to leave your area, I don't know if it was an N95, I can't remember, and let me know if you change.

So a lot of the staff I saw twice, the first time when they just had a fever, we sent them home, and the second time when they started getting short of breat.., and the x-rays, their chest x-rays where abnormal. And I saw half or two thirds of the initial staff and [Dr.] David Rose saw half of the other half, we shared the work of this tragedy. So then, as I mentioned the CCU, coronary care unit, and 3D, which is the cardiology regular ward, staff started getting sick, at which point we knew we had spread within the hospital.

Question: What date was that?

Dr. Finklestein: I don't remember when the first one was, but it was on or about the 23rd to the 25th I just cannot recall when. Then we, through the week of from about the 21st or 22nd until about the 1st, we saw about eight to 10 people a day become sick.

Question: Eight to 10 people …

Dr. Finklestein: Staff, becoming ill, either with fever or fever and shortness of breath. And at the initial time we were sending people home for isolation when they only had fever, and we realized soon after that, everyone with fever moves on to being short of breath, so we moved up our vigilance to the level of fever, and that, certainly at that point or at some point around that, fever screening occurred. We were taking temperatures of everyone and at some point we started taking our temperatures going in and out as we were going into the hospital.

As noted earlier, Dr. Rose agreed that around March 21, it was clear that there were problems with staff illness but that it was still not clear what they were dealing with.

But the problem was that in the early days, before the widespread illness among staff became clear, no one knew yet how infectious SARS could be, and the clinical progression remained unclear. This meant that even when staff became ill, the fact that they had SARS was not immediately identified. The result was that many were seen in hospital, sent home while still ill, and then a few days later called back to the hospital.

For example, one of the ICU nurses who became ill recalled going to a Toronto Hospital on March 20, after she developed symptoms. Although she reported her employment at the Grace and the fact that she had been in contact with a suspected SARS case, Mr. M, she was sent home when her chest x-ray was clear. Three days later she was admitted to West Park Hospital, where she was treated for SARS.

Another ICU nurse was seen in the emergency department at Scarborough Grace Hospital after she began to develop symptoms around March 19. She told the Commission that after she was examined she was sent home on isolation but was not given any specific instructions to stay away from her family while she was at home.

She said she did not leave her house but she did have contact with her family. as she did not know it was unsafe to do so. She said that she did not fault anyone for the lack of information, as it was new to everyone and they were learning as they went along:

> Answer: … They got a mask for me to walk out of the hospital. They would not let me go back to the ICU, they went and got my purse for me. And they said, go home and stay there, basically. I said, okay, and I did.
>
> Question:: Did they give you directions to isolate yourself from your family?
>
> Answer: No. I mean, they sent me with a mask to walk out of the hospital but, it was so new then. Do you isolate? He may have said SARS. I don't know if anybody really did. But I don't think anybody did and so I came, and they just said don't go out, basically, stay home but there was no direction to stay out of your family. There's no masks sent home with me. And you're talking in the very infancy of this illness, you know. So I came home and …
>
> Question: You don't fault them for not giving you better instructions at that point?
>
> Answer: Do I? No, because, you know, it's so easy to have hindsight. Does she have SARS? Does she not have SARS? … And, if there's not a lot of knowledge being passed on to them, if they haven't been communicated, how can they tell you?

She recalled that Public Health officials came to the house to take test samples and that Dr. Finklestein continued to monitor her health and brought her back for a followup x-ray. On March 23, Dr. Finklestein called her to tell her that she was going to be admitted to West Park Hospital.

Another ICU nurse recalled that she went to the emergency department on March 20, after she became ill but she was sent home. Public Health came to her home on March 22 to take test samples and on March 23, she went back to the emergency and was later admitted to West Park Hospital. She told the Commission that although she recalled seeing something that said to notify occupational health if she became ill, there were no specific instructions:

> All I saw was when I came in, I think that was March 19th, when I came in there was written information on the board, if you get sick call occupational health, something like that, or public health before. So I didn't pay much attention, you know. But nothing like somebody would call us and say, there is something going on that may potentially infect others and infect us, so just be prepared. I don't want you to be overly concerned, but at least take precautions, at least we will know.

As noted by one of the ICU nurses quoted above, it was not that doctors or hospital officials did not want to provide advice or better instruction, but that they still knew so little about the new disease and how it spread or the risk it posed to anyone exposed to it.

While the nurses were falling ill, hospital officials and public health officials were trying to figure out what was happening, as it was not known that there had been widespread exposure to SARS of the kind that we now know took place among staff, patients and visitors before March 20. Dr. Henry recalled being contacted by Dr. Rose on or about Thursday, March 20, because of concerns about ill staff:

> Dr. Henry: The next things that happened is over the period from the 20th, 21st, so the next week, we are busy following all these people in the community, we start to hear reports from, and I have been in contact, quite regularly with [Dr.] Allison McGeer and [Dr.] David Rose, and David Rose is the infectious disease specialist at Scarborough Grace, and Allison is the consultant, infection control, as you know for Scarborough Grace, and [Dr.] Sandy Finklestein, who obviously was in charge of the initial case. So we were talking, and David called me, I think, somewhere around the Thursday, and definitely on the Friday, we started hearing …
>
> Question: When was this?
>
> Dr. Henry: The 20th, the 21st, around that time, David expressed concerns that there are staff off sick, at the hospital,

and they are from all over the place, there are people from the emergency department, there's people from the ICU, and Sandy [Dr. Finklestein] is concerned because there is a couple of nurses at the ICU who didn't come in. So this would be, probably late in the day on the Thursday, [March] 20th, and do you think there is something going on here, and it's influenza season, they're not really sick, they might have mild symptoms, a bit of a cough, not feeling well, headaches, myalgia, allergies, that sort of stuff. So on Friday the 21st, after discussion at Toronto Public Health about, there might be something else going on here, I went out with a field epidemiologist, and Allison [Dr. McGeer] and one of her residents, who was working with her, medical residents, we went to try and get a sense of what was happening at the hospitals.

We went over to the Grace, the Scarborough Grace, and met with [Dr.] Sandy Finklestein and with [Dr.] David Rose, and Glenna Raymond, who was the VP of medicine at the time. What they had done is talk to everybody, all the nursing leaders, and said we need a list of everyone who is off sick, and we need a sense of if they're off with a respiratory illness. So, by the time we got there that day, the field epidemiologist [name], she worked with me at Toronto Public Health, she was an employee of Health Canada, but she was assigned to [an onsite] supervisor, I had asked her to put together a quick questionnaire of some of the key things we needed to think through based on what was going on. So by the time we got out there in the afternoon, and as I recall they were having a staff meeting where they were talking about what was going on with this.

We had a list of I think of nine names, there was a respiratory tech, there was an x-ray tech, there were emerg nurses, ICU nurses, but the names kept coming in and over the next 24 hours went up to 13 to 15 to 19. We put together three teams of people. And on the Saturday the 22nd, we were there until about 2:00 in the morning on the 21st, and on the 22nd we were back out first thing in the morning and we had these teams of people, epidemiologists from Toronto Public Health plus clinical nursing staff and some research people that worked with Allison, and they went out and interviewed the people that were on our list who were all at home. We gave them masks and gloves, and they took nasal swabs as well, to see if we could start getting a sense, and that night when they came back …

Question: Can I stop you there – what was the nasal swab?

Dr. Henry: Nasopharyngeal, to do some testing to see if we can identify the organism. Because at the time we were still asking is this an influenza strain, is it anything else? There was a whole bunch of laboratory testing happening, there was all kinds of things going on, but that's one: trying to isolate the organism, around the world. We were all trying to figure out what this was.

Dr. David Rose also recalled that the hospital, along with infection control and others, working with Toronto Public Health and Dr. McGeer, were trying hard to sort out what was happening as more and more staff became ill:

Question: I think by the 20th, there were 13 health care workers off sick with febrile illness, and that's in accordance with your recollection of what was going on that week?

Dr. Rose: Yes.

Question: And Toronto Public Health was investigating. Were you personally involved in any of the investigations that were going on?

Dr. Rose: What I was involved in, the 20th was the day that I was absent from the hospital and what I was involved with up until that Thursday, so the Monday, Tuesday and Wednesday was, first of all, I was back from holiday. We were becoming aware of patients and more health care workers becoming patients who were ill with a febrile illness. I also was still running, trying to run the rest of my practice, as I planned to even before the week of the 10th. But by the 20th and 21st what I was involved with was trying to, as people were reportedly falling ill, trying to assess their illness in the way that I just described, to try to categorize them as belonging to this group or not and trying to establish who was connected to who and whether the illness was sufficiently similar and without some alternative explanation, that we felt that some should be in the group and some should not. And that was a judgment at the point without very much to support it outside of the clinical decision.

Question: Now, were you working alone or with colleagues from the hospital or was Dr. Allison McGeer involved in that from Public Health?

Dr. Rose: Dr. McGeer was around the hospital a great deal. There was a staff meeting as I said earlier, on the afternoon of the 21st, I think it was in the early afternoon of the 21st, the Friday. And Dr. Henry was there, Dr. McGeer was there. It was very, very well attended in the old cafeteria at the Grace. There was a significant amount of concern and anxiety around a big unknown at that point. I was, besides attending that staff meeting, as I said, trying to get "hear and tell" of this sick person or that sick person. Some of them, I was speaking to over the phone, some of them I tried to have come into the emergency department, some of them were of course, patients that were already in the hospital and trying to figure out where the connections lay between each of these individuals. If they were health care workers, where they worked, whom had they been in contact with? And was their illness in broad terms, similar to what we were trying to characterize as typical of this febrile, respiratory illness.

Question: Who was the lead in the investigation into it, was it you, was it Toronto Public Health, Dr. Henry, Dr. McGeer, or was it just a collaborative effort?

Dr. Rose: I think it was a collaborative effort. I certainly wouldn't claim that I was in charge of the Toronto Public Health investigation at that point. I was not. I think there was a collaborative effort within the institution, but also involving Public Health, to try and sort out the pathway through which this had seemed to have spread over the preceding 14 days. At that exact point in time, I think that the infection control program and the Outbreak Team of the Infection Control Program at the hospital was in charge for the hospital, but that included a liaison with Toronto Public Health. I think we weren't, or at least I personally, wasn't involved in what was going on in Toronto Public Health's domain, except as best we could, we being the Infection Control Program, the people who are familiar with the information systems, trying to provide Toronto Public Health with contact lists of people who had been either in emerg on the 7th, or in contact with that group of people who we knew to have been sick or have gotten sick subsequently. But once those contact lists were drawn up and were sent off to Toronto Public Health, the work outside the hospital was not in our domain. And who was in charge outside of the hospital from Toronto Public Health's perspective, was Dr. Henry and the rest of the public health service.

By Sunday, March 23, 2003, it became clear that there was a big problem, as there was a realization that these staff probably had the same disease as Mr. T and that something had to be done about it. At this time, in consultation with the Ministry of Health and Long-Term Care, a decision was made to open a unit in West Park Hospital to care for ill staff from the Scarborough Grace Hospital. More will be said about this below and later in this report.

Dr. Henry said that they tried to make arrangements to bring those staff who were suspected of being ill with SARS back to the hospital under precautions and that Dr. Finklestein even went to pick up some people and bring them in himself:

Question:	And none of them would have been in any kind of precaution at this point?
Dr. Henry:	No.
Question:	Was there any concern then about families and how they'd get there, because some came in cabs?
Dr. Henry:	Absolutely, we told them, we think you might have this disease, we don't know yet, and you're not to hug your kids, not to kiss you husband or your wife, but to go now and if you can go by yourself in a car or, actually, Sandy [Finklestein] went and picked some people up, or, take a cab, sit in the backseat, keep the window open, we made arrangements for them to go under certain precautions and we quarantined their families.
Question:	Was there any thought at that point about before they, sent out into public, to mask or any other responses?
Dr. Henry:	If they had masks, we said wear them. But most people at that time wouldn't have had masks at home.
Question:	Right.
Dr. Henry:	So we figured it would be probably safest to go in a private vehicle, and we told them don't take public transport, go in a private vehicle, sit in the back seat if somebody is driving you, keep the windows open. That seemed to be the most, the best we could do at the time. Some people did have masks and we asked them to wear them.

It is important to note that despite the problems identified by the ICU nurses, they expressed no blame against the doctors or others for not knowing what we now know in hindsight. One of the most noticeable features of the stories of the ICU nurses is the continued high regard they have for their manager, Ms. Wong, and for Dr.

Finklestein and Dr. Rose. More will be said below about the communication with front-line staff and of the strong and mutually respectful working relationship that emerges from the stories of the ICU staff.

Ms. Wong, the patient care manager in the ICU, described the early days, after they learned that staff had been exposed and could be ill as “chaos.” She said that in the beginning it was confusing and very frightening for staff. She said that everyone was doing their best, but they were dealing with an unknown disease, and had not anticipated that staff might become ill. As she told the Commission:

> Question: And as the manager of the unit, did anyone update you or tell you what they were doing to make sure that staff was being monitored?
>
> Answer: I was in the meeting so I know. I don’t think I need to get an update from people and I know, I was in, for sure, in some of the meetings. I probably would not be in all of the meetings. So I kept myself up to date of the problems. So I asked people. I think people did not probably necessarily come and talk to me about what is going on, but I asked.
>
> Question: Okay. So is it fair to say at that point, in your mind, do you believe that occupational health was looking after it and you were satisfied that your staff was going to be followed? Is that fair?
>
> Answer: Actually on the first day or on the first few days, everything is in chaos. I can’t, I would not say they know what they are doing and I would not know that. My only goal is to keep informing the staff you need to be very careful, do everything you can to protect yourself.
>
> Question: Okay, you said in those early days, it was chaos. Did you say “I would not say they know what they were doing”? Are you referring to occupational health?
>
> Answer: I think occupational health would probably be one of them: infection control, clinicians, nurses, nobody

> knows what they are doing at the time. It's just very frightening, I guess. But it's lots of confusion, lots of uncertainty. Yes, for sure, and I know it's difficult at the time so I would not say that night there were very clear directions from anyone.

Ms. Wong was clear that she was not being critical of anyone or of the hospital's response. She simply noted that it was all very new and there was a lot of uncertainty. But as she told the Commission, whatever was not done right, it was not for lack of trying or for lack of doing their best, it was because they just did not know everything they needed to know at the time. As she told the Commission:

Question:	And what do you think went wrong?
Answer:	I couldn't say what went wrong. The problem, I think biggest, not problem but the biggest thing during the time is that we didn't know SARS. That was the first case in Toronto or even in Canada. Nobody had experience with that. Everyone is trying to do their best. Maybe we didn't do the right thing, but they don't know that that was not right at the time.

Although the ICU nurses were not admitted at the first sign of illness, they were contacted, tests were taken by Public Health and they were brought back to hospital when it became clear that illness among staff was a big problem and that they should be hospitalized.

In contrast, when the CCU nurses began to fall ill no one imagined it might be SARS because unlike the ICU, where there had been three known cases of the illness (Mr. T and Mr. M and Mrs. M), no one knew that the CCU nurses had also had contact with a SARS case, Mr. H, referred to above, who went to the CCU on March 14[145] and had been a contact of Mr. T, the index case at Scarborough Grace. Consequently, those CCU nurses interviewed by the Commission reported that as they phoned in sick, their reports of illness were dismissed as the flu and they were not given any advice with respect to isolating themselves. As they became ill, many questioned whether it could be the same illness they now knew was spreading at the hospital.

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[145] Mr. H returned to the Scarborough Grace Hospital on March 13 and was admitted to the CCU on March 14.

They were repeatedly told that it could not be SARS, because they had had no known contact with a SARS case. Unaware of their possible exposure, these nurses went about their normal lives in close contact with their families and going about in the community, even while ill.

One CCU nurse described the big difference in how the ICU staff and the CCU nurses were followed and communicated with:

> The ICU nurses, their story is so different from ours. They were the first group that were treated and investigated. It was such a different scenario. It was just the second group, our unit [the CCU], that have had this experience where we were not listened to or attended to or tested or anything until it got really bad … I think the ICU nurses perhaps will look at it differently because of the different way it was handled, because they had a known SARS patient in their unit, that they may have caught it. For CCU staff it was a whole different thing, because of the way the occupational health handled it. Because they told us, no, you haven't been exposed … It was a whole different impact for us, I think.

The above-quoted CCU nurse, who was later admitted to hospital and treated for SARS, told the Commission that when she first became ill she contacted the occupational health department on the 20th of March for advice but was assured not to worry as there were no SARS patients in the CCU:

> At that time I had heard the word SARS and occupational health told me not to worry, that we hadn't had any SARS patients in CCU. That this was probably just a coincidence, it was just viral, rest, fluids … yes, it was a good idea to see my family doctor, which I did the next day.

Another CCU nurse described the advice she received from the occupational health office on the same day, March 20.

> I dialed the number, called the occupational health department. When I called, there was a recording that said if you've been to Asia you are to call this number. And if you're experiencing a high temperature and shortness of breath and joint pain and all the symptoms that I seemed to be experiencing, I should contact them. I said, this is a fairly strange message. Anyway, I prompted and I ended up talking to the occupational health nurse and I said, what kind of message is that? And she did not respond … And I said, is there something that I need to know

> because the symptoms that you're describing on the recorder, I'm having those symptoms and I said, should I be told something? Is there something and she said, no. She said, matter of fact, you should be speaking to your manager.

But she was unable to learn anything further from speaking to her manager.

The problem was that the occupational health department and the nursing manager of the CCU were unaware that a contact of Mr. T had been in the CCU. So when staff began to call in sick, they were not suspected to have SARS and were not given the same attention as staff from areas where there was known exposure to SARS, such as the emergency department and the ICU. As one occupational health staff member told the Commission:

> I told our manager, I was just talking to [the CCU manager], she is really upset, all of her staff are sick, they all had worked this one particular weekend and I remember my manager saying to me, but they don't have an epilink, at the time.

The case definition of SARS, as of March 18, 2003, required that a patient meet the following criteria:

> Suspect case
> - Fever (>38 degree Celsius) and
> - One or more respiratory symptoms including cough, shortness of breath, difficulty breathing and
> - One or more of the following:
>   - Close contact with a probable case
>   - Recent history of travel (within 10 days) to Asia, especially in areas reporting cases of SARS (see above)
>
> And
> - No other known cause of illness
>
> Close contact means having cared for, lived with or had face-to-face (within one meter) contact with, or having had direct contact with respiratory secretions and/or body fluids of a person with SARS.
>
> Probable case
> - A person meeting the suspect case definition together with severe progressive respiratory illness suggestive of **atypical pneumonia or

acute respiratory distress syndrome with no other known cause of current illness

OR

- A person with an unexplained acute respiratory illness resulting in death, with an autopsy examination demonstrating the pathology of acute respiratory distress syndrome with no other known cause.

**atypical pneumonia: severe respiratory symptoms; respiratory distress with bilateral progressive infiltrates on chest x-ray (not due to microplasma, Chlamydia or legionella, if laboratory test results are available)[146]

In the early days of SARS, the case definition changed as more became known about the disease. But throughout SARS, the case definition focused strongly on the need for an epilink, which included contact with a known SARS case or travel to a SARS-affected area in Asia. Although mere travel to an affected part of Asia did qualify as a SARS epilink, presence in a hospital that had SARS cases did not. According to this limited case definition, the CCU nurses would not qualify as being at risk for being a suspect case of SARS without known contact with a probable SARS case or recent travel to Asia. Since simply being a health worker in a hospital that had SARS patients was not considered a link at this time and the connection between Mr. H and Mr. T and Mr. H's subsequent re-entry to hospital had not been identified, no one knew that staff on the CCU had been exposed to SARS. So when they became ill, SARS was not considered as a possible cause.

One occupational health nurse described the confusion:

> Part of the confusion for us was that people weren't having the same symptoms, and some of them we couldn't identify what the contacts were, so it wasn't making sense to us, so it was very, very confusing for us, we were trying to make sense of it, but it wasn't making sense, and was something we still don't really understand. I think we understand it better now, but at the time, one of the things with this virus is different people have different symptoms. We didn't know what the exposure was, it didn't make sense to us. We were trying to figure it out and it was just

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[146] Letter from Ministry of Health and Long-Term Care to all physicians in Ontario, dated March 18th, 2003, Re: Surveillance of Severe Acute Respiratory Syndrome (SARS) in Ontario.

> getting really bad. Some people had, for example, fevers right away, that was their only symptom. Other people had headaches, other people, a whole group on one floor, started off with nausea. And they didn't seem to have any contact, and it actually turned out they had contact with the patient who was transferred to York Central, but it did not make sense at the time.

Also, at this time no one knew the importance of strong surveillance systems to detect clusters of illness among staff, a lesson that would become clear from SARS I and II. As Dr. Rose explained:

> Question: Now, the staff who were calling in sick, were they calling in to occupational health or how did that information come in?
>
> Dr. Rose: They would've called, the practice for sick staff was to call occupational health, and I think also to let their floor know that they weren't going to be there. In other words, they were going to miss a shift if they were scheduled to work and they were supposed to let occupational health know that they were ill. I am not sure that both phone calls always took place, but one way or the other there were people calling in sick and missing shifts.
>
> Question: And that information, obviously significant information, how was that getting to you? Was it coming through part of a surveillance program or was it a …
>
> Dr. Rose: It was really coming through more off-handedly. That this floor had a couple of people calling in sick and that floor had a couple of people calling in sick. But at that time we weren't doing organized, regular, febrile, respiratory illness surveillance. And in fact, it's a more organized system, or became a more organized system later and since and currently; up until that time it was still pretty much the same. If we became aware of, for example, a group of patients or staff with diarrhea illness, for example, through

contact with their home base, nursing station and manager or through occupational health or both, then you know, our antenna went up and we were more alert to the possibility of something going on either in the community or in the hospital or transferring back and forth from one to the other.

Ms. Raymond, VP of Patient Services at the time, explained to the Commission that in the very early days after Mr. T's death, they focused their communication efforts on those areas where they believed there might have been exposure.

Question: Now, we were aware that staff continued to get ill and the hospital closed at some point, but remarkably some staff who worked in the areas of exposure were still not hearing about it until even after the hospital closed or at the point in time the hospital closed. Was there a system in place then, and is there now, that will allow you to get in touch with staff outside of their shifts and perhaps even normal business hours, when you have an issue like that? Would it happen differently now if there was the same kind of concern about the possible indication of disease to the staff out of emerg or some other ward?

Ms. Raymond: First of all I'd like to address your comment about staff not hearing about it. Staff across the entire organization may not have heard about it until we started doing daily SARS memos. Certainly the staff in the areas that had been affected by SARS began hearing about it because they were being contacted on the Thursday and Friday as part of the staff contact person tracing. And so I think we need to differentiate staff in an area that is directly involved or has had contact with the patient or where the patient was, as opposed to staff across the total organization. And so the system that was in place to communicate with staff in the areas where the patient was actually moving through the system, was going through occupational health and the contact

> lists were developed. They would have received the contact and communication either from occupational health or from the manager or from both because both were working on it. And that occurred.
>
> So that was through the manager and occupational health. We also had an email, electronic wide distribution mail, the first one of those went out, I believe it was Friday. Yes, the first one had gone out across the entire organization Friday. And so at that point anyone in the organization would have heard about it. The third way that we do have to communicate with people which is in place is our fan-out system. We chose not to use that backup that weekend either on the 13th or 15th. Because at that point, remember that we didn't understand the transmission. We didn't understand that, our focus in those few days was trying to communicate with people who had been in contact with the index patient, Mr. T. Not trying to communicate with everybody across the organization because we had no information from our infection control specialist … Had that been the case, we did have a fan-out system and could have put that into effect. There wasn't any reason to do that from what we were being told by infection control specialists and from Public Health about who it was that we had to reach. We had to reach the people who had been on the shift, in contact or in potential contact, with that particular patient.

Ms. Raymond said they were not aware that of the exposure of the nurses in the CCU, but that she understood that once the physician from the CCU phoned in sick, occupational health began to contact other staff from the CCU:

Question:	Now, some of the CCU staff that became ill, they were quite traumatized by it obviously. They've expressed concerns that the notification system didn't give them enough information. They didn't know, for example, that other colleagues were ill with it. They remained at home, I guess with their families after a

point in time when others were already becoming ill. Is that an issue that in your mind is a legitimate one and secondly if it is, how do you deal with that in the future so that, I appreciate there's issues of confidentiality and whatnot but some of them were pretty concerned that they weren't aware how much was going on amongst their colleagues, how ill some of their colleagues were.

Ms. Raymond: I'm sure it was a very, very difficult time for those particular staff. Some of them I saw personally when they came back to work and they talked to me about their experiences. I think in particular it was very difficult for the CCU staff, the cardiac staff, to be as aware as the ICU staff of what was happening. Keep in mind that our focus of attention was on our index patient. That was the methodology of infection control and the tracking that was in place that we knew about, that we were being advised were the patients of concern. We didn't know that there had been transmission already occurred back on the 7th and the 8th in the emergency department and that one of those patients went to the CCU. It was an unknown disease and the threat of that was not known, and so the focus of the attention was on ICU as opposed to CCU. And when the first staff in CCU reported ill, because it is a small place, CCU and ICU staff intermingled to a certain extent to cover off for each other, to support each other. Again, through the outbreak team and through that work that both infection control and Public Health were doing, we were tying the transmission to that sharing of, there must have been some sharing of something in terms of sharing the staff, as opposed to realizing that there was a patient in CCU that was ill with this disease as well. And in an infection control outbreak hindsight is wonderful to look back and be able to pinpoint where and how the transmission occurred.

Back this weekend, our focus was on Mr. T and his family, and then the ICU staff, and then the CCU

> staff, because they worked with the ICU staff. And so I accept that it, in some respects, is human nature the CCU staff were feeling that they weren't as in front and centre, as involved or the focus of the activity. But certainly, as soon as we began the contact tracing, as soon as the manager in CCU alerted us that Dr. [CCU physician who became ill] had called in sick as well, we began to look at where it all might, how did that fit into the picture of transmission of the disease. The work that Public Health provided us in the epidemiology or the linking of cases were very helpful. The staff in CCU were on the same contact list, approached both by their manager and by occupational health, had access to the hotline, had access to the electronic mail. I note they received direct calls from the manager as well, had a considerable amount of outreach and support from the clinical director who herself was a cardiac nurse. But if that has left some staff feeling that they didn't know enough or weren't supported enough, I can understand how they probably felt.

Despite Ms. Raymond's understanding, those CCU nurses interviewed by the Commission reported that they were not contacted, followed and supported by anyone prior to their admission to hospital. This is not to suggest that the hospital knew about Mr. H. As noted below, the Commission accepts that the hospital did not know about Mr. H and the risk he faced to the CCU staff and nurses. But the fact that no one individual was at fault does not negate their pain and suffering or the need to fix the system-wide problems that let this happen.

The CCU nurses, sick with symptoms later diagnosed as SARS, were unaware of their danger. They remained at home, ill, exposing their families and others in the community. As one nurse told the Commission:

> I was not bedridden or anything. I continued to do my shopping. I would go to the gym. I would go to the market. whatever I had to do. I would just continue doing it.

Ontario had no system to ensure that the vital pieces of information already in the hospital's possession were properly analyzed and acted upon, such as the fact that a patient who was in the emergency department, in the same room as Mr. T, had come back into hospital and had been cared for, without precautions, by staff in the coronary care unit. Without this knowledge, occupational health and management continued to send the message to staff that beyond Mr. T and Mr. M, there were no cases of SARS in the Grace Hospital.

On March 20, 2003, a memo to staff assured them:

> We have no other confirmed cases of SARS at this time [other than Mr. M whose case was updated in the memo].

The only mention of ill staff is one sentence:

> Occupational Health continues to follow staff members who have reported experiencing some symptoms.[147]

By March 21, Toronto Public Health was aware that a number of staff members had reported ill at the Grace Hospital. Toronto Public Health sent an epidemiological investigation team to Scarborough Grace Hospital, to assess how many health workers were off and why. But the only information provided to staff was that the hospital was:

> … continuing to follow staff members who have reported experiencing some symptoms.[148]

By Friday afternoon, March 21, it was known that 13 hospital workers were off work with febrile illness. An investigation was commenced. Toronto Public Health described the investigation that followed:

> An investigative team is formed as follows: one epidemiologist from TPH; one field epidemiologist from Health Canada; one communicable disease manager from TPH; three clinical personnel/laboratory staff from MSH [Mount Sinai Hospital]; Dr. Henry, Dr. Rose and Dr. McGeer. A questionnaire is developed and investigative teams of two are formed. Dr.

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[147] Memo to all physicians, staff and volunteers, dated March 20th, 2003, from Glenna Raymond, VP patient services and Dr. Jack Stein, Deputy Chief of Medical Staff.

[148] Memo to all physicians, staff and volunteers, dated March 21st , 2003, from Glenna Raymond, VP patient services and Dr. Jack Stein, Deputy Chief of Medical Staff.

> Henry and Dr. McGeer start assessing and interviewing staff in hospital.
>
> The other investigative teams are sent out with N95 masks and gloves to interview the 13 hospital workers who are reported as being ill at home and to secure both blood and nasal-pharyngeal swabs to be sent to the National Microbiology Laboratory for testing. Dr. Henry also requests further epidemiological assistance from Health Canada. A second Health Canada field epidemiologist and a senior epidemiologist arrive on March 22, 2003.[149]

But this information was not conveyed to CCU staff at the Grace, many of whom remained at home ill, unaware of what was happening in the hospital and among their colleagues.

In the meantime, staff continued to fall ill. Those health workers who were not ill and were still able to work struggled to fill the gaps left open by their ill colleagues and questioned what was happening. One nurse described how staff shortages were making it difficult to meet the staffing needs of the hospital:

> I think by the Saturday night [March 22] I'd voiced to the manager that this hospital should be closed ... 3D telemetry was very short-staffed, emerg was extremely short staffed and she'd asked us to pick up the six beds on the telemetry unit. We already had six CCU beds. I don't think we were full, I can't remember, to pick up more patients it's like we can maybe pick up two but this is the limit, we can't go any further than this, it's getting out of hand. And I know I voiced this place should be closed down. You can't run a place this short of staff.

By mid-morning Sunday, March 23, 2003, 21 staff members had reported illness. As the day unfolded, many of the ill staff began arriving at the Grace Emergency Room for assessment.

The CCU nurses, who had no idea they had been exposed to SARS, were shocked to learn they might have SARS. As one nurse told the Commission:

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[149] Toronto Public Health Chronology, SARS I.

> I don't remember that night [March 23]. You have to remember, I was kind of stunned, lying there, just trying to process all this information … I lay in bed there alone, quietly, tears running down my cheeks. I didn't even know I was crying but tears were running down my cheeks, trying to decipher all of this information.

The nightmarish experience of this nurse typified the agony of so many health workers during SARS who went about their jobs unsuspecting any danger, unwarned by their employers of any risk, and failed seriously by a system totally unprepared for such an infectious outbreak. One of the failures of SARS is that it took the unprepared system so long to learn how to protect health workers against SARS. To the question "how could it take so long to learn how to protect workers" there is no simple answer. Part of the answer discussed below is a lesson of SARS, a lesson still unlearned, that occupational safety received a dangerously low priority during SARS, and that occupational safety experts should have a central place at the table in any planning and response and decision making around our protection against infectious outbreaks. More will be said about the importance of worker safety and the role of occupational health later in this report.

Dr. David Rose described the events of March 23, as ill staff were coming to hospital for admission and it became apparent they could not provide care for all their own staff:

Question:	Now, around the 23rd there were discussions about closing the hospital. By that time, up to 21 staff members had reported ill and a number were arriving at the Grace emergency. So what was happening on those days, the following days?
Dr. Rose:	On the weekend of the 22nd and 23rd and Monday the 24th, the events as you described were unfolding. We were still hearing about more and more people becoming symptomatic, trying to sort out where they had been and what they had done and who they might have been in contact with. On the 22nd and 23rd, between Dr. McGeer and me and other colleagues in other hospitals, we were trying to find isolation facilities for patients, really disregarding the level of their illness, because we perceived that there was a significant risk of transmission of this, whatever it was, this pneumonia, from somebody ill to other contacts.

We didn't know how close or not close or intimate the degree of contact had to be and so we thought it was safer to have the individuals dealt with as an inpatient where precautions could be used rather than a household where it was going to obviously be very difficult to provide isolation and containment. There were some people who we left at home, if they lived alone. One nurse who I think worked for occupational health at the hospital who lived by herself and she promised not to go anywhere and she promised not to see anybody. And she stayed home but I think she was eventually hospitalized, I may be wrong in my recollection about her particular story. But by the morning of the 23rd, we were overwhelmed, we were shorttaffed, obviously people didn't want to come to work and there were many that were sick.

We were having trouble functioning as an acute care facility both in the emergency department where there were many people who had fallen ill, and people still showing up with fevers and illnesses. Somewhere, somehow, somebody came up with an idea of commandeering space at West Park. And I first heard about that during a conference call at the hospital, we were in a boardroom at the Grace and I can't remember exactly who was present at the time. The Chief of Staff and, I think, the Chief Nursing Officer were present, and probably a few other people there and of course, there were people on the other end of the phone from the Ministry and this announcement was made that there would be space made available for inpatients at this commandeered facility at West Park. And I thought that was godsend because we thought it was crucial to get people admitted, we clearly had to be careful because the degree of illness couldn't be too intense because they had no kind of monitoring or critical care facilities, but for people with lesser degrees of illness, we felt fine, this is an inpatient facility, we can take people out of their homes, out of their houses, away from their partners and children and families and provide some degree of isolation and containment.

Dr. Rose said that even when they were seeing staff becoming ill and the decision to open West Park was made, they still did not have any diagnostic tests and did not have a clear clinical syndrome or epidemiological trail. But because of the group of illness, it seemed logical that everyone had SARS and that is what was assumed:

Question: Were you seeing the staff who were coming in ill?

Dr. Rose: Many of them, yes, many of them I was seeing. I was asked to evaluate them, and at that point we were still operating under a presumptive, assumptive diagnosis but we had no diagnostic tests, we had only the barest bones of a clinical syndrome for that matter, and we had, in most cases, no real clue about epidemiology or individual link to other individuals. But it seemed like everybody coming down sick, it seemed logical and obvious to us, were part of this group. Some of them maybe weren't, but we had no way of differentiating, easily differentiating, those that probably were from those that probably weren't, and so we made the assumption that everybody had SARS at that point. It was fairly easy at that time because if you had a fever, you had been in the hospital, there was some connection even if it seemed tenuous, we felt that was SARS. So, West Park was opened.

Dr. Rose told the Commission that one of the challenges was communicating to staff what was happening, without them first hearing about it on the news or through another source:

> But during that teleconference [where the decision to open West Park was made], almost as though it was for public relations, the people at the Ministry wanted to make the announcement about this West Park facility at a media conference later that afternoon, about 4 o'clock that afternoon. And I said as much as I was able to and I have the right to do that, I told them I didn't want them to do that, I sort of forbade them to go on the television, the radio, and make this announcement because the people I had been in contact with by tele-

> phone mostly or that were already in the Grace or usually on a gurney in emerg, would find out by the radio or over the TV that that bed at West Park was going to be for them. And I said, there is no way they are finding this out over the radio, these are people I work with, some of them very close colleagues, not just physicians but nursing staff in the ICU who we were going to ship off to West Park. And I insisted that we would tell them ourselves. We would tell them where to go, if they were still at home we would get in touch with them, have them pack a bag and show up and give them instructions as to the logistics. And that is what we did over the rest of that afternoon. We got in touch with a dozen or so people who were eventually admitted to West Park. And over the next several hours they presented there or were transferred by ambulance to be admitted there, and that was on the 23rd.

By March 23, it was apparent that SARS had spread to many patients and staff members at the Grace. The hospital sent out a memo to staff, advising them of what was happening:

> As our work to track and investigate SARS continues, public health officials today confirmed that a number of our Grace Division staff are in the early stages of this illness. As a result of this new information, public health officials are currently assessing the isolation capacity of other hospitals in the GTA. We are also doing extensive tracking of the co-workers of these staff members in our continued diligent efforts to contain this illness.[150]

But this news was not shared with all those staff members who were at home ill, who did not have external access to hospital emails and correspondence. Still some of the CCU nurses remained ill at home, unaware of what was happening, potentially exposing their families and others.

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[150] Memo to all physicians, staff and volunteers, dated March 23, 2003, from Glenna Raymond, VP Patient Services and Dr. Jack Stein, Deputy Chief of Medical Staff.

One CCU nurse, home ill with what was later diagnosed as SARS, described her contact with the occupational health office on that Sunday, March 23:

> Occupational health did call me again the Sunday, around about the dinner hour, just to check up on how I was feeling. I told them I was starting to feel a little bit better, I still had a fever but I didn't have to take Tylenol as quickly. It was getting longer before my fever went up again. … SARS was definitely mentioned at that point, that what I had was not likely to be SARS, just to monitor it. They didn't tell me to isolate myself, they didn't tell me to stay away from my family. They didn't tell me that I should be getting a mask. They just basically said keep an eye on it.

The above-quoted CCU nurse was finally contacted on Tuesday, March 25, and told to come to be assessed at the hospital. She was admitted for treatment to Scarborough Grace hospital for SARS on March 26 and transferred to West Park Hospital later that day.

Another nurse became ill on March 18, while at work. She reported her illness to occupational health, who thought she might have the flu. She went home, where she remained ill, unable to work between March 19 to the 23. She told the Commission that during this time she received no contact from anyone at the hospital, other than a secretary who phoned to ask how she was feeling. During this time she lived with her family, without taking any precautions, including with her sister, who was in the final trimester of her pregnancy. On March 19, she visited her family doctor, who thought that she had a viral illness. But her condition continued to deteriorate. On March 23, she went to the hospital, at which time she was admitted. She recalled being told by Dr. Finklestein that she might have SARS and worrying that that meant she would die:

> Then around 1 p.m., Dr. Finklestein came to me, I know him very well, he had a mask and everything, and goggles. When I looked at him that is the time that it clicks in my mind. He said you won't like this, I think you have SARS. I started to cry right away because think of [Mr. T] who died. That is all I know about SARS … I thought I am going to die. I said don't tell me I am going to die.

Another CCU nurse, ill but not knowing it might be SARS, went out and about in the community that Sunday, March 23. She had been in contact with occupational health during her illness but no one had told her what was happening in the hospital and she did not know that a number of Grace staff had come down with SARS. She remained at home, until finally, on Monday, the 24th of March, desperate for help and for answers, she contacted Public Health:

> Sunday, the 23rd, I woke up and I still felt quite ill. Took some Tylenol. I went off to church. Came back and went out, had dinner and stuff like that. I went to the gym. Went back to the sauna. This day, I thought, well this is a really bad flu and I'm not getting rid of it. So, Sunday night, again, things weren't looking good. I called the occupational health department again and I said, I'm not feeling well. My temperature is still high. I'm having even more trouble breathing. And she said to me, do not come to the Grace. Go to your nearest hospital.
>
> So, I couldn't figure out what to do by then. By then I started wondering about what I had. Where are my colleagues in all this? And nothing was being done and there is a pattern. There's a pattern but it wasn't being followed by the hospital. So, I took some more number 3 at that time. I went to bed. Slept. Monday morning [March 24], I thought, no, this just can't go on any longer. So I called the public health department. And at that time, I figured what I had probably was probably contagious. So I called the public health department. When I spoke with the occupational health department on Sunday night and I started asking questions about the testing and all that and I said, something's got to be done and she said, don't come to the hospital. I said, and how are we going to get it done? She said to me that the public health department can come into the home and do the testing … Sunday night we talked about it. She said public health department can come in because I continued to ask about testing since the Saturday, moving into Sunday, that we must be tested. And then she said something about calling the Public Health Department because they've been going into the homes and testing some other people. And then it started occurring to me that there are other people out here who are being tested. So I said, well, that's their number and she gave me a number.
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> So I didn't call at that time. But Monday morning [March 24] when I woke up and I still wasn't feeling any better, I thought, okay. Let me call the public health department, which I did. A female answered the phone and I related to her where I worked, what was happening. She said to me, okay. Don't do anything. Stay put. Someone will get in touch with you shortly. And about 10 minutes after a male called me … he said I would like for you to get to the Grace immediately. And I said, really? And it

> sounded really urgent. It was a very frightening conversation we had.

One health worker said that the workload for occupational health and infection control was simply too great, and that the information was changing too frequently. As she told the Commission:

> There were too few people, not enough contact, not enough follow-up, different answers from Public Health. So, much confusion. Like, who do I follow? Do I follow Public Health, do I follow occupational health, what do you do? Nobody seemed to be giving me the same answer twice. We understand that the directives were changing on a daily basis. There was no question about that and the possibility of contacting all the staff within the hospital, it had to happen by word of mouth. It had to happen by when you came in, okay, this is what had changed. You know, there was no way that they could contact everybody, because there wasn't enough people to do it. So that was a huge issue. The department was way too small, not enough hands to do the work.

In the meantime, the CCU nurses, unaware of what was going on at the hospital and with Public Health, suffered at home, cared for by their families, exposing their families, oblivious to the danger posed by a potentially fatal disease. They were the lost victims of the first outbreak.

It is difficult to capture in words the anger, hurt and sense of betrayal that these nurses expressed in their interviews with the Commission. As one nurse told the Commission:

> They let us go a week with symptoms before they even reacted. I ended up going to my family doctor and exposing everyone in the doctor's office. My family were exposed for a week … It was the hospital not telling us what was going on, and who was giving occupational health the authority to tell us what to do? To me, they should have told us, we're not sure what is going on but you should isolate yourself even from your family until we know a little more of what's going on. But we were doing our routine, daily activities, and here my family was exposed the whole time, …

Another nurse questioned why they weren't given more information:

> … I found it really strange when they were calling every day to find out our temperature and I said, well, why are you calling to find out our temperature, to find out our symptoms, why were they following that close? We normally call in sick and you're left alone and you go back when you're well, unless it's a really extended period. But they were following us in a very discreet manner and not giving us any information … There were a lot of precautions in place from the occupational health department protecting themselves, and so why didn't they pass on that information to us so that we could probably wear a mask at home. Even if they had said, you know what, we don't know what's going on and something bad is happening, wear a mask in your home, stay home, lay low, don't go out in public until we find out further. We'll let you know.
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> I could appreciate that, because I work in a hospital. It's not far-fetched for me to pick up a disease, that is a hazard at the job. And every single person who works in a hospital knows that. It's not like we were going to panic and do something crazy. I work in an intensive care unit, in the CCU, we cover codes in the hospital. We go to every code, just about, that is called in the hospital. So we're used to high-stress situations. We're used to crisis intervention. That is what we are trained to do. So it's not like we're a bunch of people who are going to freak out and do something really crazy at home. That's not the case.

Another nurse said that even if they didn't know what was going on, it would have been better to have told them they didn't know, and to give what little information they did have, which was that other staff were ill:

> … They know that people are getting infected, and for me to be sent back home and not be accommodated in the hospital, you know, they know that it's already spreading, why would they still send me back home? So in that case, they should at least be up front, be forthright with the staff, and say we don't know what's happening, what is going on, but there is something going on that may potentially affect you and until we guess what it is, be aware and at least you could protect yourself and your family.

Post-SARS, an investigation into the transmission of SARS at Scarborough Grace found that the highest attack rate of SARS occurred in the coronary care unit. The report noted that the cardiac care nurses had a much longer period of unprotected exposure to all cases, including undetected SARS cases, than staff in other areas such as ICU or ER:

> The highest attack rate among the nursing staff occurred in the CCU (60.0%). This rate is likely due to the intense, close-contact care given the SARS cases in the CCU compared with the shorter contact with patients in the emergency department. In addition, CCU nurses worked more unprotected shifts than the 3 hours of unprotected exposure to a SARS case in the ICU. Although ICU staff provided more close-contact than emergency department staff, it is likely that the shorter period of unprotected exposure in the ICU resulted in a lower attack rate than the ICU nurses than among the emergency department staff.[151]

The CCU did not reopen until the fall of 2003, as too many of its staff had become ill and had not recovered from their illness and many were coping with long-term effects of SARS.

The Commission finds no evidence that anyone in the occupational health department, or any other part of the hospital, including hospital officials, deliberately misled or kept information from their ill colleagues. As noted above, the Commission accepts that hospital officials, occupational health and infection control were unaware of Mr. H's SARS exposure and of the risk he posed to CCU staff who were caring for him. The Commission accepts that the failure to earlier identify the cluster of SARS illness among CCU staff was partly the result of the case definition that required an epilink or contact and of the lack of knowledge that there had in fact been such contact. The underlying failure was the system-wide absence of a surveillance machinery to ensure that all early warning signs were picked up and investigated promptly.

It is critical, however, that the lessons learned at the expense of front-line health workers, such as those whose stories are told above, form the basis for future planning and future responses to infectious disease outbreaks or occupational risks for health workers. As we now know post-SARS, any cluster of illness among staff is cause for alarm, requiring immediate investigation, action and immediate and direct communication with front line workers. Communication must include not only those in the hospital but those at home. Health workers may not know the significance of their own illness if they do not know what is happening within the hospital, for example, a cluster of illness among their colleagues.

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[151] Vaira et al., "Investigation of a nosocomial outbreak of SARS", at p. 291.

Time and time again health workers told the Commission that what they wanted was more communication earlier, including communication with respect to what is happening in the hospital and information on how to best protect themselves and their families even when the risk is unclear.

What is terrifying is the prospect of what could have happened had SARS been a more contagious and efficient spreader. Had SARS been more easily transmitted, the CCU nurses and staff could have spread the much wider. The task of contact tracing, as difficult as it was, would have been enormous and quite likely impossible. As one nurse described the risk:

> Had this been a fast-spreading disease, the outcome might have been very different. I mean it had the potential to spread literally like wildfire because it wasn't contained. It could have been more contagious if it had been more easily caught in the community. If it had been more easily transmitted, this would have been horrific.

As tragic as they were, the consequences of SARS would have been infinitely more serious had SARS been more highly infectious. There is a deep lesson here for those charged with the responsibility of planning for future outbreaks.

Illness on the Front Lines

As more and more staff were identified as ill, they began to arrive at the Scarborough Grace Hospital for treatment. Sick health workers continued to arrive at the Grace. Soon there were not enough negative pressure isolation rooms to accommodate them. Such rooms at other hospitals were also filling up. This created a crisis as patients continued to present at Scarborough Grace Hospital, where there was no safe place to isolate them.[152] During a teleconference involving a number of individuals and the Ministry of Health and Long-Term Care, it was decided that West Park Hospital would open a SARS ward. The Naylor Report described the opening of West Park Hospital:

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[152] Toronto Public Health Chronology, SARS I.

> On March 23, 2003, officials recognized that the number of available negative pressure rooms in Toronto was being exhausted. In a four-hour period on the afternoon of March 23, 2003, staff at West Park Hospital, a chronic care facility in the city, re-commissioned 25 beds in an unused building formerly used to house patients with tuberculosis.[153]

For those who worked at West Park this assignment proved to be dangerous. One of the heroic nurses who went to work at West Park, Ms. Tecla Lin,[154] died of SARS contracted in the course of her work at West Park. More will be said below about the opening of West Park Hospital and the infection and death of Ms. Lin.

On March 23, the evening West Park, began to admit health workers from Scarborough Grace, nine health workers were admitted to a newly created ward at West Park Hospital. Sick, tired and terrified, these staff members were forced to confront their worst fear, dying of SARS. One nurse described how she felt:

> I remember I was quite upset. I didn't want to go there, because I knew West Park is a chronic care hospital. What I saw of SARS at that point is that you kind of get flu-like symptoms, you get problems breathing, you get intubated and you die. I thought that was my course. I thought I don't want to go over to West Park to die. I wanted to go back to Mount Sinai where I heard they were getting better … I thought I wasn't coming back home again. I had a diary that I had since a young girl and I ripped it up. I wasn't sure who was going to read it, because I didn't think I was coming back home.

As this nurse said:

> You don't realize how much you want to live until you think you're going to die.

Another nurse described the trip to West Park and the fear and uncertainty as they were taken to a strange hospital, to be treated for an unknown disease:

> So at two o'clock in the morning I was transferred via an ambulance bus to West Park along with three other staff members and another patient. I

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[153] Naylor Report, at p. 27.

[154] Because the circumstances of Ms. Lin's illness and death were so highly publicized during and since SARS, she is referred to by name in this report.

> don't know who that patient was in a corner of the ambulance on a stretcher with a rebreather mask and I still have no idea who that patient was and what the diagnosis of that patient was. But four staff members from the Grace were transferred that night to West Park. And it was about 2 a.m. We arrived there at almost 3:00. I think the fellows missed their way a little bit and we got there pretty close to 3 a.m. It reminded me of those old movies from the wartime. You know, when people are bundled into a bus and carted off into isolation or into quarantine … Anyway, it just reminded me of those old movies and it was a horrible, horrible experience.

> The bus took me, three colleagues, and a patient, who was on a stretcher in a corner. I've no idea who she was but she looked very ill and she was on a rebreather mask meaning that she needed a lot of oxygen. A rebreather mask is a 100 per cent mask that is put on a patient and the patient will get pretty close to 100 per cent oxygen … And the three fellows that escorted us, they were dressed as though they were going to outer space, like from top to bottom the space suit, and it was just totally foreign.

Other staff, equally frightened, were transported to West Park Hospital by taxi, their only comfort each other:

> We wore masks [both patients and the taxi driver] and we were both in the back seat and it was a great comfort to have someone there, a colleague that I had worked with for several years, to be driven down in that taxi because that experience, being driven down to a part of Toronto that I don't know at all, late at night because by the time we were taken down it was around 11:00, close to midnight. And it's dark, we are both holding this drug in our hands because we had to take another dose of drug with us … So I am holding this vial of drug and thinking what is this drug, what are they giving me here, this is all so sinister. And in that area, being driven to a place that I had essentially no idea where I was going, I had no idea, no clue. It was surreal. I thought I was in another country, another time.

The ill staff were admitted to a previously closed wing of West Park Hospital whose staff were required suddenly without warning or preparation to treat patients suffering from a potentially fatal illness about which little was known.

They too were frightened, unsure of what was happening and the disease they were fighting, but they stayed and worked very hard to help those who were ill. As another nurse told the Commission, when asked how she felt about the care she received at West Park:

> I just wanted to say I am so thankful that anybody came … when you see that people get it so easily and didn't know what was happening … they didn't come in a whole lot but they came … if you needed them they were there and I appreciated that … I think they were very courageous.

In the days that followed as the Scarborough Hospital closed, as a provincial emergency was declared, and as the province fought to contain SARS, front-line health care workers who had become ill struggled to recover and to cope with the trauma of SARS. For those who were the first to become ill, the fear of dying was particularly real, as all they knew were the early cases of SARS, Mrs. K, Mr. T and Mr. and Mrs. M, all of whom had died from the illness. Their fears for themselves and for their families were magnified in their isolation, as they faced them alone and in silence.

One nurse described her isolation, her illness and her fear of dying:

> At the time I was already having all the side effects of the antibiotics. I cannot eat, I keep on throwing up, sometimes I can't go to sleep, and at the same time I was having the Gravol, so it makes me drowsy, and then when I wake up, I can't sleep at night and I'm just watching the clock to pass by. And I was sometimes even forced to go out of the room, because I'm just in that room with only a glass window that I can see, and there's nobody who comes there except my nurse, and the one who x-rayed me, and the one who takes my blood. That's the only person I see. I don't even see anything. And so it was really, really hard for me. And I'm just crying all the time and just thinking, what's going on, and at the same time, I was watching TV, so I could hear all the things that's going on outside, and all the people was dying, from China, Hong Kong, Toronto, everything like that.
>
> So, I just stayed there, and just cried. And I don't know when I realized that I didn't have a shower for 26 days. The room was only a washroom, there was no shower room … I was already thinking will I survive every day, if I'm still going to breathe or not tomorrow, or am I going to be like the same patient that is going to have a tracheostomy or something because I was there for a long time. Even my colleagues, when I told

> them, I can't go home because I still have fluid in the lungs, they're not telling me anything, but they're not telling me that, oh maybe they're going to put a chest tube on you or something. But on my mind is, oh my God, am I going to die now, or tomorrow, like the other people I hear? And I'm just going to be one of the statistics of the probable SARS.

Another nurse described the impact her illness had on her family, especially her children:

> My kids were real scared ... you know, Mom's in the hospital with SARS and you can't see her. I was gone for a week, it was very scary for all of them. And my husband, he was great. I mean, I would have been a basket case if it was reversed, but he was really good, he handled it really well, but it affected him, too. Because when you're upset and when the doctors came in and told me, well now it's on your lungs and you can only talk on the phone. You couldn't see anybody, it was hard because you're scared and you just want somebody to be there with you but you can't.

One nurse who passed SARS to her child described the unimaginable worry and sadness when she learned that her child was to be admitted to hospital and that she would not be able to be with her to comfort and support her because she was hospitalized at the time:

> Answer: So my husband drove her there, just dropped her off at the entrance, the nurse came down to pick her up and brought her to her room.
>
> Question: And once she was in there, were you still able to communicate with her by phone?
>
> Answer: Yes. I was crying so much. That was her hospitalization. There was nobody even to hold her hand and things like that. And she's alone, nobody can visit her. It's good for me, I had another nurse there in my room. But her, she would be just all alone.

Spread Throughout the Grace

As March progressed patients and health care workers moved throughout the Grace, ill with SARS but undetected. The disease spread beyond the initial localized "epicentres" of the Grace outbreak: the emergency department, the medical floor 4D and the ICU. Patients, visitors and staff throughout the hospital had the potential to be exposed to SARS.

Although the Commission is unable to tell the stories of all those infected with SARS during the first outbreak, the stories told below show how the course of the deadly and insidious disease ran ahead of efforts to contain it in a system unprepared for such an outbreak and overwhelmed when it hit.

Mrs. Z

One of the younger people to lose their life to SARS, Mrs. Z, was exposed to SARS through her regular visits with her mother, who was an inpatient in the Grace Hospital. Mrs. Z was a regular visitor from February 20 to March 16, visiting every day and at times spending the night. She began to feel ill on March 17. On March 21, she collapsed at home and was taken to the Grace Emergency by ambulance. She was discharged and sent home. On March 23, 2003, she again collapsed at home. She again returned to the Grace Hospital Emergency Department. Mrs. Z spent the night but was discharged the following day. Her condition continued to deteriorate and on March 26, 2003, she was taken via ambulance to Markham Stouffville Hospital. She was isolated on March 27, 2003, and reported to Toronto Public Health that same day. Mrs. Z died on April 2, 2003. She was 56 years of age.

Mrs. O

Another patient, Mrs. O, was admitted to the Grace Hospital on March 17, 2003, following a hip fracture. She had surgery to repair the hip on March 18, 2003. Between March 21 and March 26, she shared a room with Mrs. W,[155] a patient who had been admitted to the Grace on March 7, 2003, and had remained at the Grace since that time. On April 2, 2003, Mrs. O developed a fever. A chest x-ray on April 3,

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[155] Mrs. W was admitted to Scarborough Grace Hospital on March 7, 2003, following a fall at home. She developed symptoms on March 22, 2003. Her condition deteriorated and she died on April 26, 2003.

2003, showed infiltrates. She was identified as a possible SARS case and transferred to the SARS unit on April 3, 2003. However, she was not identified to Toronto Public Health until April 8, 2003. Her condition deteriorated and she died on April 11, 2003. She was 86 years of age.[156]

Mrs. U

Another patient, Mrs. U, came to the Scarborough Grace Hospital Emergency Department on March 13, 2003, with an acute myocardial infarct and congestive heart failure. She was admitted to the coronary care unit, where she remained until she was discharged from hospital on March 17. During this time, Mr. H, who had not been identified as a contact of Mr. T, was also an inpatient in the CCU. Mrs. U developed symptoms on March 19. She went to the Scarborough Grace Emergency Department on March 21 with fever, cough, shortness of breath and diarrea but was discharged home. On March 25 she was taken by ambulance to North York General Hospital. She was in critical condition and required resuscitation and intubation in the emergency department. She was transferred to University Health Network, Toronto Western Hospital the following day, March 26. But her condition continued to deteriorate and she died on April 1, 2003, at 78 years of age.[157]

Mr. F

Mr. F is one of the patients whose source of SARS remains to this day unknown. He visited the emergency room at the Grace on March 14. He was discharged home, and returned with a fever on March 17 and on the 19th. He was sent home on both dates. He returned to the Grace on March 20, 2003, at which time he was admitted. His case was not reported to Public Health until March 26, 2003. Although he remained in hospital, his condition deteriorated and he was transferred to the ICU. He died on April 30, 2003, at 73 years of age. Public health officials remain unable to identify the source of SARS transmission to him, whether it was through exposure at the Scarborough Grace emergency department or through his son, who had returned from Hong Kong on March 9, with a febrile illness.[158]

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[156] Toronto Public Health Case Review.

[157] Toronto Public Health Case Review.

[158] Toronto Public Health Case Review.

Mr. N

Mr. N was a 75-year-old man who attended the outpatient chiropody clinic at the Scarborough Grace Hospital on March 12, 2003. He developed symptoms on March 19 and was admitted to the Scarborough Grace Hospital on March 22, 2003. His condition deteriorated and he was moved to the ICU on March 23, 2003. When the Scarborough Grace Hospital began to shut down, Mr. N was transferred to Mount Sinai Hospital, leading to the spread of SARS in the ICU at Mount Sinai Hospital. The story of Mr. N's transfer to Mount Sinai Hospital and of the transmission of SARS at the hospital is told later in this report. Mr. N passed away on April 1, 2003. When he died, Mr. N's wife, daughter and son were all hospitalized, suffering from SARS, and were unable to be with him during his last moments. His daughter recalled receiving the devastating news and having to go with her brother to tell her mother of their loss. She recalled the pain of not seeing her father before he died, and the difficulty she had accepting that he was gone:

> It is just that my dad had been through so much and I had been with him night and day and he had to die alone. His funeral was just us, you're upset, you're hurt, you're angry … you have so many questions and you've got that void there, and then your dad dies alone. We couldn't even see him, the coffin was closed. It took me a long time to accept that my dad really passed away, because I did not see him.

Mr. I

While Mr. N was hospitalized, he was visited by a friend, referred to as Mr. I. Mr. I visited Mr. N at Scarborough Grace Hospital on March 22 and 23. He developed symptoms on March 26, and was seen at Markham Stouffville Hospital on March 27, 2003. He was sent home with antivirals and antibiotics and told to stay in isolation. His condition continued to deteriorate and he was admitted to Scarborough Hospital, General Division, on March 30. Mr. I was transferred to the intensive care unit at University Health Network, Western Division, on April 1, 2003. He died on April 5, 2003.[159]

D Family

One patient who was exposed to SARS through the CCU led to the spread of SARS among seven family members, three of whom died. The story of transmission began with Mrs. D Sr., who was admitted to Scarborough Grace Hospital on March 12, 2003, after a stroke. Mrs. D Sr. was an inpatient in the Grace CCU from March 13, 2003, until March 16, 2003. While in the CCU she was visited by her husband, her two children, their spouses and her grandchildren. Her family continued to visit her unprotected until March 24. They took turns spending the night. On March 24, 2003, the family recalled, they were required for the first time to wear masks. It was apparent to the family that something was very wrong.

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[159] Toronto Public Health Case Review.

A few days earlier, on the Friday, March 21, Mr. D Sr. had begun to feel unwell. He had gone to see his family doctor and was given cough medicine to combat his cough. On March 23, 2003, ill but unaware he had been exposed to SARS, Mr. D Sr. visited his wife in the CCU at Scarborough Grace Hospital. Later that day, in a visit that was to have profound consequences, he also went to visit his sister at her home. By March 25, 2003, he remained ill. His son and daughter-in-law took him to North York General emergency department, where he remained until he was later transferred to Sunnybrook Hospital on March 26, 2003. He suffered a stroke while hospitalized.

By this time his son, Mr. D Jr., was also unwell. He and his family were put on home quarantine but Mr. D Jr. continued to be unwell. He was admitted to hospital on March 30, 2003. Although Mr. D Jr.'s wife was cleared to go home, as a result of her exposure she had to restart her quarantine.

At the same time that Mr. D Jr. and his family went into home quarantine, his sister also became ill and was admitted to hospital.

Also at this time, Mrs. D Sr.'s brother-in-law had begun to feel unwell. He was admitted to hospital on April 6, 2003. His wife, Mr. D Sr.'s sister, also became ill and was admitted to hospital on April 8, 2003. Their son also became ill and was also admitted to hospital.

In the end, Mr. D Sr.'s brother-in-law continued to deteriorate and he died on April 22, 2003. Mrs. D Sr. died on April 25, 2003. Mr. D Sr.'s sister died on May 12, 2003. Mr. D Sr., having suffered a massive stroke while in hospital battling SARS, was eventually discharged from hospital to a rehabilitation centre. He had suffered significant impairment and post-SARS required 24-hour care.

These cases show how one case, undetected, can spread throughout the hospital. Despite the hospital's and Public Health's belief that SARS had not gone beyond those areas of the hospital where Mr. T had been (ER, ICU and 4D), it had in fact spread further. Unknown to staff, they were caring for patients who had been exposed to SARS and were ill with SARS and who were therefore treated without adequate safety precautions by hospital staff who themselves fell ill and continued the chain of transmission.

An investigation into the transmission of SARS at the Grace concluded:

> The findings from our investigation provide insight into the mode of transportation, period of infectivity, and the morbidity and mortality associated with SARS. We have demonstrated that transmission can easily go undetected and lead to a significant number of cases in a short period. Even a limited number of undetected cases has important implications for the health care system, as demonstrated by the large nosocomial cluster arising from the 1 index case in our investigation. It is imperative that we remain vigilant in our surveillance activities and maintain strict infection control precautions to contain this new disease[160].

These two obvious lessons from SARS, the need for better surveillance and for better infection control procedures, have been acknowledged by the system. Although some steps have been taken to plug the most obvious holes in our disease defence system, much remains to be learned and much remains to be done.

One of the fundamental remaining problems, discussed in greater detail below, is the failure of the health system to embrace occupational safety as a discipline to be applied at every level of decision making. Prior to SARS most health workers had never heard of an N95 respirator, much less used one. During the early part of SARS, the use of protective equipment was not applied broadly enough or strictly enough, and health workers were not protected. Although the Ministry of Labour has made great progress in occupational safety since SARS, it is still the poor cousin of the health system, still an outsider in the corridors of health power, and still regarded by many medical officials and experts as a source of external annoyance rather than a close and cherished ally in the fight against infectious disease.

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160. Varia et al. "Investigation of a nosocomial outbreak of SARS", p. 291.

Closing the Grace Hospital

By March 23, it was clear that SARS had been transmitted to health workers at Scarborough Grace Hospital. At 6 p.m., on March 23, 2003, an outbreak investigation team meeting was held, at which "the conclusion amongst the field epidemiologists and the clinical experts is that some, but not all, of the ill hospital personnel had symptoms that could be consistent with the early onset of SARS."[161]

That evening, March 23, 2003, Dr. Henry advised the Scarborough Grace Vice-President, Glenna Raymond, that the hospital may be facing widespread transmission of SARS amongst hospital staff. She recommended that the hospital consider closing.

As more and more staff became ill, running the hospital became a challenge. Dr. David Rose recalled the crisis that led to the closing of the emergency department and the ICU:

> Over the next couple of days it became more and more difficult to run both the emergency department and the ICU, where there were other staff members ill. I don't think it was on the 23rd, but maybe the 25th or even the 26th, when we made it clear to the officials in the Ministry that we were having trouble staffing our ICU because of shortages of qualified people, it was then that we were told, you can't run your ICU you can't run your emergency department, you have got to close. That was really a terrible moment, because we knew bad things were happening but it was really, you are really in a crisis when you close the emergency department, especially for this kind of reason.

March 23 was an important day. So many things happened; so many pieces of evidence came together and made it apparent that SARS was racing out of control and that strong action was needed. It was now clear that SARS had spread throughout the Grace. Staff, visitors and patients were becoming ill. Later in the evening of Sunday March 23, 2003, in an effort to limit the number of patients and visitors at Scarborough Grace in order to prevent further spread of the illness, the Scarborough Grace Hospital, in consultation with the Ministry of Health and Long-Term Care, closed its emergency department to new admissions, and closed its ICU department with the exception of inpatient cardiac arrest cases.

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[161] Toronto Public Health Chronology, SARS I.

It had become clear that simply being at the Grace since the admission of Mr. T was a potential risk factor or link to SARS. On March 24, 2003, the Ministry of Health and Long-Term Care in a news release requested that Ontarians with symptoms or with concerns who had visited to the Grace Hospital between March 8 and March 24, 2003, contact public health officials.[162] The net had to widen in order to try to identify all possible SARS cases. But SARS had already spread beyond the Grace and this made case identification and contact tracing even more difficult. As the WHO noted in its travel alert issued against Toronto later in the outbreak, on April 23:

> The latest we tackle a disease, the more difficult it becomes to contain the chain of transmission.[163]

Nothing proves this better than the story of the outbreak at Scarborough Grace Hospital.

On March 24, 2003, not only were the Grace ICU and emergency department closed but the after-hours clinic and non-urgent surgeries were also cancelled. Clinic and outpatient services were deferred, relocated or cancelled. The Grace was closed to new admissions. General visitors were prohibited. Staff movement from unit to unit was to be limited.[164] On March 25, 2003, the Grace implemented restrictions on all clinical services. The Grace Hospital was closed.

No one could say who had been exposed or who was going to become ill. Keeping the hospital open posed too great a risk to the community, staff and patients. But closing a large urban hospital does not happen quickly. No one in Ontario had ever had to close an entire hospital as quickly as possible. Dr. Henry described for the Commission the challenges they faced in closing the hospital:

> Dr. Henry: We realized that we had no way of telling who in that hospital had been exposed, and who of them were incubating this disease, and who of them were going to get ill, and that we need to stop people coming in. And we needed to basically keep the sick people away

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[162] MOHLTC News Release Communique, March 24, 2003.

[163] WHO Travel Alert, p. 4.

[164] Memo to all staff, physicians and volunteers, March 24th, 2003, from Glenna Raymond, VP Patient Services and Dr. Atilla Turgay, Chief of Medical Staff.

from, keep everybody in that hospital away from each other, until people either got sick or didn't, over a period of time. So we came up with quarantine based on basically what I had done in Africa during the ebola outbreak, which was wearing masks and gloves and gowns. So Allison [Dr. McGeer] and myself and some of the people who were there came up with a list, these other things that you need to do, and here is how you are going to have to do them. And went to every ward and talked to every nursing group, we talked to the housekeepers, we talked to everybody in that hospital and there was four teams of us, two of us each and we wore masks and we went and we outlined and, it was really difficult, some of the nurses were extremely upset.

Question: Is this after the hospital closed?

Dr. Henry: This was during the period of time, the hospital didn't just close …

Question: It takes a while …

Dr. Henry: It takes a little while because …

Question: This was on the 24th?

Dr. Henry: On the 24th, yes. It was on the Sunday and the Monday that we had done this, because the shift changed, so we had stationed the security guards at the front doors, we locked all the doors, except one for staff, the emerg had stopped accepting patients, so the emerg was closed. We went through with every staff, you have to wear a mask at what times, you can't sit together at lunch, you can't eat together. Every patient we tried to discharge home into quarantine, anybody who could be. We kept anybody who couldn't be discharged home, and we tried as much as we could to get them into single rooms. They were all isolated. They all wore masks whenever a health care worker was in the room, the health care workers wore masks, gloves and eye protection.

Question: Did you go through every patient in the hospital?

Dr. Henry: Every patient in the hospital, every health care worker, every staff member at the hospital.

Dr. Henry explained that the closure of the hospital was difficult for everyone involved and that the hospital, understandably, worried about the impact on the community:

Dr. Henry: My impression of what happened that Sunday [March 23], but I was actually at the hospital, although I was the one who said we need to do this, and I talked with Glenna Raymond and [the CEO], and Glenna, who is the Chief of the Medical Staff, she has a nursing background, she I think recognized immediately the dangers. The CEO was very, very reluctant, he was very concerned about what this would mean in terms of, not so much the reputation in community, but their ability to serve the community where are people going to go if they're sick if we close. And it took quite a lot of talking, and I had a long discussion with him, several discussions with him saying, this is a risk, anybody who comes into this building, we are now putting at risk, we have to do this, and he had a very hard time with it I think, he asked me what my authority was to do it.

Question: The Ministry was involved.

Dr. Henry: Absolutely, and although I may have suggested it initially, it was not without discussion with [Dr.] Barbara Yaffe and [Dr.] Sheela [Basrur] and the Ministry, who also, I mean the Public Health people immediately supported, they said if this is the situation, then yes, we will support that decision. It took a little while for the hospital people at the Ministry to grasp that this was a key, really, I mean, it was not

> done, ever, that I can think of, in a hospital, and certainly not in recent time. The impact of it, there were 3,000 people that worked at the hospital, and there were hundreds of patients, the impact of it, it was not without great thought that we did this, which is why it took several days to actually get it done.

Ms. Glenna Raymond, then Vice President, Patient Services, was asked to describe from the hospital's perspective the steps that had to be taken, the challenges faced when closing the hospital, and the impact of closing the hospital on staff, patients and the community:

> Well, let me talk first about the process and then share some comments about the impact. Again, through our work with Public Health and the infection control team, we gained an increasing sense towards the end of that week that there had been transmission. The epidemiology trail was still not able to be clear to us about why and where the connection and transmission occurred. We also had, during that week, increasing numbers of staff becoming ill, and therefore had two concerns leading up to the closure. One was to contain the illness and stop any further transmission, and the second was; did we have the resources and staff to provide care on an ongoing basis to new clients and to new admissions. And so the decision for closure was thoughtfully considered from both of those perspectives, And on the weekend, we had the intensive care unit closed to new admissions, and we had the emergency department on consideration for ambulance drop-offs, and so effectively had the emergency staff as well.
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> We had discussions throughout Saturday with Ministry of Health personnel and Public Health. Again, then on the Sunday the 24th, we had discussions in teleconference with the Regional Office, Ministry of Health, with Toronto Public Health, with our infection control specialist, and recognized Sunday evening in that call that we would need to more publicly, in effect, close off to admissions. And so Sunday night, we began closing down the surgical programs, contacting patients and cancelling their elective surgical bookings. So it was really a phased approach to close off all new activity coming into the hospital. Monday, we met with all of the medical directors, clinical directors throughout the team that managed and met together Monday morning. Spoke to them about closing to any new activity and closing down all activity that

> we could and really minimizing the amount of activity that was going to be continued at the Grace. By closure, again, you have to remember that the hospital was completely closed, and throughout this we had patients who were seeking care. We had staff who were coming in dedicated to care for the patients that remained. That was really how the closure decision was made and how we did kind of a step-by-step fashion to close off these activities. All non-urgent activity, all personnel that were not needed to continue the activity and care for those few remaining patients, were sent home, and so effectively that was how we closed the hospital.
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> The impact of the decision was, I believe, very thoughtfully deliberated because this is a hospital that has always had a tremendous mission and mandate to serve the community. We recognized that in closing, there would be a gap in care for other conditions, other illnesses, other health needs, that could not be met, and so we were very much aware that closure would have an impact on the community. We recognized as well it would have an impact on patients and their families and gave specific letters to patients and information to visitors about what was happening. We recognized also that it would have a very significant impact on our staff and our physicians, what it would mean to them in terms of their work, their employment, their income, what it would mean to them in terms of, were they at risk and their families. And so the efforts related to closure also included a number of communications sent to all of the various parties of interest.

As noted above, one of the challenges in closing the hospital was the need to continue to provide care for those patients still in hospital, while at the same time ensuring the safety of the community, which resulted in the creation of work quarantine. Work quarantine meant that a health worker was in quarantine but was permitted to come to work. Understandably, the whole idea of the possibility of exposure was a terrifying concept for health workers as they worried not only for their own well-being but for that of their families.

Dr. Henry described the early confusion around quarantine and the fear expressed by health workers. She said that one idea that was considered but rejected was the idea of putting health workers in a hotel or other location so they could continue to work but stay away from their families:

> Many of the nurses were upset, many of them were very upset, but I think it took enough time and I guess some of the confusion, the initial confusion about voluntary quarantine, and we had started this, we had come up with this idea of work quarantine, because we realized that if we sent all of the staff home, the patients were going to suffer and that we aren't going to be able to bring people in from elsewhere, so we created this work quarantine thing, which was the worst of every world, of course, for the staff. Many of them were frightened for their families, their thoughts were not of themselves, but what about my kids, what about my husband, what about my family. So we gave them instructions about what to do at home, what to do at the hospital, and if people weren't comfortable going home, or they couldn't isolate themselves adequately at home, the hospital provided places for them to stay within the facility, we talked about ideas of can we put them in a hotel, but then what about the hotel staff and how is that going to work? And they actually, the staff, through discussions with the senior management at the hospital, didn't want that. They wanted to be protected but they wanted to be able to live. They didn't want to feel confined, so, there was an idea, but they used it in China.

Even now, years after SARS, the illness of staff and the closure of the hospital bring back memories of an event in Ontario's health history that no one thought they would see: the closure of a major urban hospital. Dr. David Rose recalled for the Commission how he remembered the hospital, describing it as "eerie" in the days following its closure:

> … The emerg was closed, there were no admissions, many people, most of the hospital had been vacated, people had been transferred to long term care facilities that were hastily organized, people were discharged if they could be discharged. Many were transferred. Some had died. But there was no replenishing of the census at that point, and the hospital really became very eerie. In fact, I haven't thought of this in a long time either, the physician who I had mentioned earlier who had been looking after [Mr. H] in the CCU and was himself hospitalized for SARS … I went up to see him and I sent him home and he had been stuck in his room for a week, 10 days, during which time, around him, unbeknownst to him and unseen by him, the hospital had become a ghost town, perhaps a bad choice of words. And I said, I remember now, I hadn't thought of this since the day I

> sent him home, saying, "[name], you're going to walk out the door and you're not going to recognize this place." It's a place he worked in basically since the hospital opened. I said, there is nobody here. There might be three or four patients in rooms down the hall or you see a couple of nurses at the nursing station. But everybody is in masks and gowns and it's going to look strange. And he was glad for the warning, because it looked very different to us, it didn't look like a hospital anymore.

Ms. Raymond described the impact of closing the hospital and the uncertainty about what would happen once the hospital closed, and how and when it would reopen:

> For all of us who experienced the hospital closure it was distressing. Particularly in a site like ours, where we had for years been very vocal about the commitment to the community, the loyalty and the long service that our employees have, and there's a connection to the institution and to the community and the things that made us – at the beginning with the outbreak, that connection to the local community, sensitivity to families and those who care allowed us to continue it. Those were also the attributes of staff that made it very, very difficult to envision closing the hospital. What do you mean, closing it? We have to be here, this is who we are and what we do, we're here to serve the community. And so yes, I believe that was a shared experience for everyone. How can we close this? And walking through the halls of a closed hospital, where you're used to walking through a bustle of activity and lots of people coming and going. And personally, when I slept over at the hospital and walked through the corridors, it was quiet, and just the sheer reduction in the numbers of the people coming in and out of the hospital. For those who experienced that, the closure was distressing and I believe it was because, again, for years, you try and engender in the health care workers the commitment to service and the commitment to community, and now you're suddenly saying the complete opposite. And so it was difficult to help the staff understand that closure was the right decision. It was also difficult to help physicians understand that closure was necessary, because of the direction and advice from Public Health and infection control that this was a necessary containment. There was, I believe, part of that stress was for them, thinking, how would it reopen? How would we get back to where we were before? I also remember very clearly at one of the meetings

> where I was talking with staff about reopening and asking for commitment to reopen as to the services, the need to have that in a very slow and deliberate way. I think that was a time when some of the staff realized that yes, we would reopen, but back when the closure was announced there was that sense of complete doom: if we closed, would we ever reopen?

The Commission finds that the decision to close Scarborough Grace Hospital in the face of unknown and widespread exposure was the right course of action in the circumstances. In the face of unknown danger, a strong response such the closure at Scarborough Grace Hospital was necessary to stop the chain of transmission and to protect staff, visitors and patients.

It is a credit to all Public Health officials, the Ministry of Health and Long-Term Care, and all those at Scarborough Grace Hospital that they managed to close the hospital despite not having had the experience of and knowledge from doing so before. This was uncharted territory for everyone involved, and there is no doubt that the task of shutting down the hospital and notifying staff was a huge one.

SARS showed us that the health care system as a whole was unprepared in the event that it became necessary to close a hospital in the face of an infectious disease outbreak.

Communication at the Scarborough Grace Hospital

Prior to March 13, tuberculosis was being investigated for all the T family members. But those staff working on the ICU, seeing the severity of Mr. T's illness, worried that it might be something else. When the second tuberculosis test came back negative on March 13, and it was ruled out, it looked like that they were dealing with something new and unknown, likely an atypical pneumonia imported from Hong Kong.

After March 13, news of Mr. T's death ran through the hospital, as staff talked about the man with the mysterious illness in the ICU. As one health worker told the Commission:

> We were hearing this little buzz around the hospital that this patient passed away with this disease that they didn't know very much about.

She described the information as:

> … just hearsay, around colleagues, nothing official, nothing from the infection control nurse.

On March 14, 2003, the Scarborough Hospital issued a memo to its employees. The memo, from the Vice-President, Patient Services, Ms. Glenna Raymond, and the Deputy Chief of Medical Staff, Dr. Jack Stein, advised staff about Mr. T and the unidentified illness:

> On Friday, March 7th, 2003, a 43-year-old male was admitted to our Emergency Department, Grace Division. He was later admitted to ICU. He died on Thursday, March 13, 2003. This patient was ill with an acute respiratory illness of unknown cause. An autopsy will be done.
>
> The patient's mother died suddenly last week at home with respiratory symptoms. Other family members were admitted to Mount Sinai Hospital, Sunnybrook and Women's College Hospital, and The Hospital for Sick Children and are receiving care and observation in isolation.
>
> At this time, we do not know the source of the illness, but infection control measures are being taken as a precaution.

The memo told staff that the hospital was working closely with Public Health and with local, provincial, federal, and other infectious disease experts. It also contained the following information and instructions, for those staff who had contact with Mr. T:

> Managers of all staff who may have had contact with this patient are advising their staff to report directly to Occupational Health if they or their families are experiencing fever, muscle ache and/or respiratory symptoms.
>
> A Hospital Hotline has been established for staff to give them information about contacting Occupational Health and to allow them to leave voice mails after hours [hotline number provided in memo].[165]

On March 17, the hospital confirmed for staff that Mr. T was ill with travel-related pneumonia and updated staff on the progress of the other family members:

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[165] Memo to all physicians, staff and volunteers, dated March 14, 2003, from Glenna Raymond, VP Patient Services and Dr. Jack Setein, Deputy Chief of Medical Staff.

> We would like to update you on the situation at The Scarborough Hospital, Grace Division.
>
> Health officials confirmed at a news conference late on Friday, March 14, that a patient who was admitted to our Emergency Department, Grace Division on March 7, and died in ICU on March 13, was ill with a travel-related pneumonia. **Other family members are reported to be in good condition at Mount Sinai Hospital, Sunnybrook and Women's College Hospital, and the Hospital for Sick Children.** Our deepest compassion goes out to the family involved. [emphasis in original]

In the same update, the hospital relayed to staff information about the ongoing work of Public Health and the hospital:

> We are continuing to work very closely with our health care partners and all government levels. Toronto Public Health is the lead health official on this situation and has established an information line at [number provided] – the public has been asked to call if they have traveled to Asia recently, had close contact with someone who has traveled to Asia recently, and are experiencing symptoms including sudden high fever, cough, sore throat, and muscle ache.
>
> We have contacted our staff who may have had contact with the patient or his family members in Emergency, 4D Medicine or ICU from March 7-13. Our own Hospital Hotline remains open for staff to provide you with information about contacting Occupational Health. The Hotline Number is [number provided]. At this time, no staff or members of the community have been admitted to either the General or Grace Division related to this outbreak but universal precautions remain in place. All units at both sites are open.[166]

This report came three days after Toronto Public Health officials and Ministry of Health and Long-Term Care officials announced the outbreak, including taking the unusual step of naming the index case. On March 16, media reports had put the total number of Canadian cases at 10, with a new case under investigation in York Region.

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166. Memo to all physicians, staff and volunteers, dated March 17, 2003, from Glenna Raymond, VP Patient Services and Dr. Jack Setein, Deputy Chief of Medical Staff. The memo continues to discuss media contacts and provides website information for Toronto Public Health and Health Canada.

In the March 16 media report, the term SARS is used, and the report says that "The World Health Organization issued an alert on the weekend that said the outbreak "is now a worldwide health threat.'"[167]

On March 16 Mr. M was brought to hospital via ambulance. Because his contact history with Mr. T was identified, he was isolated and handled with precautions, both in the emergency department and while in the ICU. It was no secret among staff that they had another case in the hospital. On March 17, Mr. M was intubated and remained critically ill.

On March 18, the Ministry of Health and Long-Term Care sent a letter to all physicians in Ontario, providing information about SARS, including case definitions, symptoms and recommendations for triage and evaluation of cases and isolation procedures and use of protective equipment.

On March 19, the Hospital provided its third memo to staff, since the first memo issued on March 14. In the March 19 memo, the hospital reported the admission of Mr. M, who had come to the emergency department 3 days earlier:

> On Monday, March 17, The Scarborough Hospital admitted into the ICU at the Grace Division a patient suspected to have atypical pneumonia, along with other health problems. At this time, no staff or other members of the community have been admitted to either the Grace or the General Division related to this outbreak. Both Emergency Departments are busy but all units at both sites remain open with universal precautions still in place. We continue to monitor staff and patients who may have had contact with the original patient or his family members.[168]

In the same memo, the hospital repeated that it continued to work with outside agencies and explained that information is constantly changing:

> Our Infection Control team has been meeting daily since March 12 regarding this situation. Since then, we have also been in daily contact with the other affected hospitals and local, provincial and federal health-care officials. Due to the number of agencies involved and the nature of

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167. CBC News, "Ontario reports new case of severe respiratory illness", 16 March, 2003.

168. Memo to all physicians, staff and volunteers, dated March 19, 2003, from Glenna Raymond, VP Patient Services and Dr. Jack Setein, Deputy Chief of Medical Staff.

> this outbreak, information about its cause, and about the number of people affected and their condition, is constantly changing. We are committed to providing you with the most accurate information as soon as it becomes available to us through organization-wide emails and regular updates to managers.[169]

This memo reported to staff that some of their colleagues were experiencing symptoms but then went on to add that information from external sources suggests the outbreak may be quieting down:

> We would like to remind you that our Hospital Hotline remains open if you need information about contacting Occupational Health. The Hotline Number is [number provided]. A few staff members have reported experiencing some symptoms and they are being followed closely by Occupational Health.
>
> External health officials are beginning to cautiously suggest that the outbreak is quieting down. However, Toronto Public Health continues as the lead health official, asking members of the public who have traveled to Asia recently, had close contact with someone who has traveled to Asia recently, and are experiencing symptoms including sudden high fever, cough, sore throat, and muscle ache to call the Toronto Public Health hotline at [number provided].[170]

The March 19 memo did not provide any information with respect to case definitions or recommended isolation procedures and precautions for staff. It did not provide any details with respect to ongoing efforts at contact tracing and how, and by whom, potentially exposed staff were being tracked and monitored. The word "SARS" was not used and no definition of the word or any explanation about the illness, its source, clinical presentation, or possible treatments, was reported.

In contrast, media reports over the previous few days were growing in number and content, as international and national attention to the crisis grew. The word "SARS" was being reported in the press, as media stories attempted to report whatever information was available about the illness and its origins. Based on media reports, the problem seemed to be getting worse, not better. For example, on March 17, the *Globe and Mail* reported that many reported cases occurred in health workers:

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[169] Memo to all physicians, staff and volunteers, dated March 19, 2003, from Glenna Raymond, VP Patient Services and Dr. Jack Setein, Deputy Chief of Medical Staff.

[170] Memo to all physicians, staff and volunteers, dated March 19, 2003, from Glenna Raymond, VP Patient Services and Dr. Jack Setein, Deputy Chief of Medical Staff.

> The WHO said the disease is spread from person to person, but only through close contact. Many of the reported cases have occurred in health workers involved in the direct care of others who may have had the disease, or in people who have had close contact with cases, such as family members.[171]

A March 18 news article reported that the number of cases were growing, including those in Ontario, as it reported that the disease had spread to the doctor who saw the T family, but that the cause of SARS was not known:

> Public health workers around the world are on alert as they try to come to grips with a severe new form of pneumonia.
>
> It's called severe acute respiratory syndrome or SARS and so far it's killed at least nine people, including two Canadians. The problems is no one knows what's causing the illness.
>
> The World Health Organization says SARS is a global health threat that is affecting more than 150 people. Most of the cases are in Hong Kong, China and Vietnam. However, eight of them are in Canada. In Toronto, a woman with the illness passed it on to her husband and three adult children. She and one son have since died. The doctor the family consulted also became ill.[172]

Another news report issued on March 18 reported that "internationally, 90 per cent of the people who've contracted SARS are health care workers."[173]

On March 19, Health Canada reported Mr. M's case, noting that the case had moved from suspect to probable SARS:

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[171] The *Globe and Mail*, Labs race to identify mystery illness, by Allison Lawlor, March 17th, 2003.

[172] Globe and Mail Update, Health experts search for cause of severe pneumonia outbreak, 18 Mar 2003.

[173] Globe and Mail Update, Mystery lung illness likely viral: health experts, 18 Mar 2003 11:06:22

> Dr. Gully announced the number of probable SARS cases in this country has risen to nine. One patient in Ontario who had been categorized as a suspected case has been shifted into the probable column.
>
> The man became infected after spending 12 hours in an emergency department room near a patient who later died of SARS. He is in stable condition in hospital.[174]

The news report reported that the number of cases in Canada continued to rise:

> That brings the total number of probable and suspected Canadian cases to 12. There are eight probable (including two deaths) and one suspected case in Ontario, two suspected cases in Alberta and one probable case in British Columbia.[175]

By March 19, the hospital had issued three memos to staff, each containing relatively limited information. The word "SARS" was not used until March 20, and even then did not include a clear description of the symptoms and case categories as they were known at the time.[176] The reports made no reference to the potential risk of exposure posed to staff, did not detail recommended procedures for contact with suspected cases, and did not convey in any detail the ongoing steps by Public Health and the hospital to identify sources of infection and track down patients, visitors and staff. Based on the memos to staff, the outbreak seemed relatively confined. It is easy to see why many staff reported that their main source of information was the media and the internet in the early days of SARS. As one nurse said:

> The Scarborough Grace Hospital had a system of email to give us information but the information given was generic. All the information I obtained I got from TV and radio.

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[174] *Globe and Mail*, "Health Canada issues travel warning", 19 March, 2003.

[175] *Globe and Mail*, "Health Canada issues travel warning", 19 March, 2003.

[176] Although the clinical symptoms and case definition were constantly changing, health officials had defined the categories of suspect and probable and had identified symptoms associated with the illness. As noted above, a March 18th memo to physicians in Ontario provided information about the case definitions and symptoms, as well as recommendations for triage, material disposal, isolation and personal protective equipment for staff.

One nurse recalled raising the issue to hospital officials after the outbreak was over:

> When we met a few months later, I said, I have a concern with the dissemination of information at our hospital because whenever there is an influenza, whenever there is some sort of outbreak in the nursing homes or other hospitals, we have little memos printed up on our desk and sometimes quite a few, to alert us to the fact that there is something going on in the community. And I said there was absolutely nothing about SARS. We didn't even know the symptoms of SARS. We knew nothing about SARS. We just knew that it was some sort of contagious disease.

Another problem was that hospital staff did not have access from home or anywhere outside the hospital to internal hospital emails and correspondence. This meant that staff who were not working, in particular those staff who were at home ill in March before the illness among staff was identified, were unaware of what was happening inside the hospital. Their source of information was the media and the Internet.

This is not to suggest that the hospital was deliberately hiding information or deliberately failing to report information to staff. This period of time was, without a doubt, marked by confusion and uncertainty. Information constantly changed and there were many unknowns. And hospital officials, including infection control and occupational health, were working very hard to try to understand what was happening and to identify the contacts of Mr. T. As one nurse said, the information was coming from all directions:

> I think they [the hospital] were extremely bombarded, I can only imagine how difficult this would have been to set up. I think they did the best with what they had. I think it was pretty good, but I think when the information was dwindling down to the front line, to the front-line staff nurse level, I think that could have been better.

The problem was that for those front line staff not in the meetings and at teleconferences and briefings, the main source of information was what the hospital or the press told them. As each day passed, more and more information was being disseminated publicly. When compared to hospital memos, the media reports provided more information and presented the problem in a more serious light. As hospital officials attempted to understand the outbreak and to clarify the unknowns, staff were learning about SARS through the press. Staff repeatedly told the Commission that they wanted to know what was happening, even if it meant telling them that something was not known.

An example of effective communication during SARS can be seen in the leadership of Ms. Wong. As the Commission interviewed staff involved in SARS, one of the things that emerged from the story of the Scarborough Grace Hospital was the consistent praise and regard for Ms. Agnes Wong. Even those nurses who became ill with SARS conveyed their respect and admiration for their manager and spoke of her leadership and support during SARS. Nurses said that she did everything she could to make sure they were informed, even if the answers were not always known.

Ms. Wong is most known for her role of reporting events in Hong Kong and China to infection control and physicians involved in the care of Mr. T, the index case at Scarborough Grace Hospital. But she was also commended to the Commission by staff time and again for her excellent communication and leadership during SARS. As one nurse told the Commission:

> I think without her it would have been a disaster, worse disaster.

When asked what about Ms. Wong's management could serve as a lesson to others, this nurse said:

> You have to meet her. She's very quiet and very unassuming. And she's got a lot of knowledge, but she doesn't push. If you're an experienced nurse, she'll take what you say. And she had read up enough about it. And she communicates well. She's very shy. She's not a real big people person, but what she comes out with, she will have a meeting and within 20 minutes she'll have that meeting on the books. She's just very organized.

Another nurse described the constant communication provided by Ms. Wong:

> She was educating us on what was going on, because there were so many different meetings that were occurring downstairs in the boardroom and we didn't know what was going on, and she was updating us. I knew she had spent hours and hours in meetings. She was great. If she wasn't there to keep it together for us I don't know what would have happened. She would never lie to us. She would tell us how things are as far as she knew. She would just come back from one of those meetings, it was with several different hospitals and Public Health and whatnot and she would come directly from that meeting to talk to us about everything that was discussed. And she is still our manager. Thank God.

Another ICU nurse described the communication as follows:

> Agnes was absolutely excellent and she couldn't have been better, I don't think. She kept us very informed. Every day they had a meeting and every day she would come back and inform us of what little, or even if she had no information, she would come back and she was very communicative with us.

This is not to detract from the hard work and efforts of other managers at the Grace. But the accounts of health workers in the ICU reveal that the difference between effective and ineffective communication may be found in the frequency and the amount of information provided. As the ICU nurses pointed out, they never felt that something was not told to them, and they felt that if something happened, whether it was clear or unclear, they would know about it. The trust and open communication meant the difference between lingering anger and questions about whether they were being told what was really happening.

The problems with communication continued to grow, as staff became ill and the crisis became more serious.

As noted above, on March 19, the hospital reported to staff that there were some staff members who had reported experiencing symptoms of atypical pneumonia. On March 20, the hospital reported: "Occupational Health continues to follow staff members who have reported experiencing some symptoms."[177] On March 21, the hospital reported to staff:

> We are continuing to follow staff members who have reported experiencing some symptoms. We would like to remind you that the confidentiality of our patients is critical and we have a responsibility to respect and protect their privacy. To that end, it is very important that we do not release any information about patients or coworkers who may be experiencing symptoms.[178]

A March 22 memo repeated the earlier messages, that staff were reporting experiencing symptoms but that they were being followed:

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177. Memo to all physicians, staff and volunteers, dated March 20, 2003, from Glenna Raymond, VP Patient Services and Dr. Jack Setein, Deputy Chief of Medical Staff.

178. Memo to all physicians, staff and volunteers, dated March 21, 2003, from Glenna Raymond, VP Patient Services and Dr. Jack Setein, Deputy Chief of Medical Staff.

> Occupational Health continues to actively follow staff who have reported experiencing some symptoms, particularly those who are contacts or have been in areas that are more impacted by this illness. The Hospital Hotline remains open at [number provided] for anyone who would like more information. Specifically, we would like to remind anyone experiencing a fever to contact Occupational Health as soon as possible.[179]

What staff did not know was that on March 20, an investigation team was coming to the hospital to investigate reports of staff illness. As of that evening, there were 13 staff members who had reported ill. By March 22, 16 staff members had reported ill. Dr. Henry's notes of that day provide a glimpse into what was happening at that time:

> Saturday morning we also had an increasing number of staff members who reported ill and by the end of the day Saturday, the count was at 16. It took us much of the day Saturday to obtain information about the clinical status of the cases and to obtain the blood samples and nasal farangeal swabs requested. We had a team meeting approximately 6 pm that evening and reviewed all of the reports that we had. It became clear between the two field epidemiologists, three clinical people Dr. David Rose, Dr. Allison McGeer and myself that some people clearly had an illness that could be early onset of SARS while other had other upper respiratory tract infections that included such things as nasal congestion and a cold or other illnesses such as a tooth absess in one case.[180]

On March 23, the hospital reported to staff that it had been confirmed that a number of staff were in the early stages of SARS:

> As our work to track and investigate SARS continues, public health officials today confirmed that a number of our Grace Division staff are in the early stages of this illness. As a result of this new information, public health officials are currently assessing the isolation capacity of other hospitals in the GTA. We are also doing extensive tracking of coworkers

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[179] Memo to all physicians, staff and volunteers, dated March 22, 2003, from Glenna Raymond, VP Patient Services and Dr. Jack Setein, Deputy Chief of Medical Staff.

[180] Summary of the Events of the SARS Outbreak on April 11th, 2003, by Dr. Bonnie Henry, Associate Medical Officer of Health, Toronto Public Health.

> of these staff members in our continued diligent efforts to contain this illness.

The hospital also reported to staff that the ICU was closing as well as the emergency department. What was not clearly communicated to staff was the fact that there was widespread transmission throughout between staff at the hospital and that there were more ill staff than the hospital could accommodate. The situation was dire.

By this time staff working in the Grace knew that things were serious. They knew colleagues who were ill, had seen some of them come into the emergency department, and they knew that the number of sick staff was growing. But they had no idea how many staff were sick, from what areas, what exactly was done to protect those who were ill and those who were still working. At this point there was no reference to precautions in the updates. The use of precautions in all areas, with all patients, would not start until March 25. In the meantime, as noted earlier in this report, staff were confused about the level of protection they should be using and when they should be using protection.

One nurse who worked in the emergency department during this time period said that as staff were coming in sick, they had no idea how bad the problem was or how many were sick. This nurse was shocked to report for work on May 23 and learn that six colleagues were ill:

> We're still just hearing rumours. We didn't know what was going on. We decided on our own to wear masks. We didn't know what was going on. And the next thing I remember is I showed up for work on that Sunday morning [the 23rd] the day we closed … we had I think a few sick calls, people that obviously were coming down with SARS and we didn't know it, and we were always a bit short-staffed, but that was an unbelievable, to be six nurses short, we've never been like that.

The above-quoted nurse said that the information came from rumours and guessing and that they had no idea what was going on.

Many staff interviewed by the Commission reported that even when the hospital closed, they were not notified of what was happening and learned about events through the news. For example, one nurse recalled working on Monday, March 24, and being at home off work during that week, unaware that her colleagues were ill. She said that although there was a fan-out system in the hospital, no one contacted her:

> No one from management had told us that our fellow colleagues were getting ill? I went home on the Monday morning … I never once received any information from management during that time, from the Monday to the Wednesday. I heard everything on the news. Not once did they initiate, we have a thing called a fan-out program, so if there's a crisis, say there's a plane crash or something major, major, they initiate a fan-out and the fan-out says, okay, person closest will be called first, they then call the next person and it goes down the list so that you can get all the staff into the hospital that can come to deal with that crisis. They didn't even issue that. They could have had the unit clerk or management could have initiated the fan-out to say something like, please listen to the news, we have no further information, any shifts that you are booked to come in for you are to come in for. They didn't do any of that.

As the hospital struggled to respond to the outbreak, the communication demands could not keep up with the changing environment and all the unknowns. The problem was that information was being reported in the public domain and, whether it was right or wrong, it became the source of information for health workers. The hospital, through its desire to understand what was happening and to report what was known, often lagged behind the press reports or the rumour mill in the hospital. Rather than constant communication, telling staff very clearly what was known, what was unknown, and what exactly was happening, the memos in the early days of SARS did not convey the efforts, concerns and hard work on the part of Public Health and hospital officials as they attempted to better understand the illness. Although privacy concerns were important, staff had no idea how many sick colleagues there were, where they were, and how they were doing. They did not know what precautions were being taken in what areas, and what was being done to ensure that they were safe. Although safety of staff and patients was clearly a priority for the hospital, this was not conveyed to staff through detailed accounts of what was happening.

This is not to suggest that another hospital could have done better or that all the lessons of SARS, including the lessons for future communications, should have been clear at the time. It is easy to look back and pick apart communication and suggest ways for improvement, particularly at a time when the day-to-day crisis has passed. The Commission is mindful of the fact that more so than any other hospital, Scarborough Grace was learning as it went, and struggling to respond and adapt as information changed daily and at times hourly.

Between March 14 and March 31, 2003, it issued 14 emails, updating physicians and staff as events progressed. Despite the criticisms of some about the insufficiency of the content or the amount of information they received, the hospital did try to keep staff informed and it cannot be said that the hospital did not attempt to communicate with their staff or that they remained silent.

But as will be seen time and again throughout SARS, the lesson from SARS is that communication with staff is key. Staff want to be informed of what is happening, even if the answers are unknown or unclear. Staff must have access to information whether they are at work or at home.

Fear, Uncertainty and Courage

One of the obvious strengths of the SARS response, seen time and again through the story of SARS, was the fact that health workers continued to come to work, even in the face of uncertainty and fear. It is difficult to imagine the impact of SARS on the front-line health workers at the Scarborough Hospital during the early part of SARS. Imagine the fear and uncertainty of going to work every day, worrying you might get sick from an infectious disease and, worse, you might bring it home to your family; of going to work every day as precautions and policies constantly evolved, leaving many to wonder if they were safe and if the experts making these decisions really knew what they were doing; of going to work every day and wondering if there was something new and horrible about SARS that was not yet known.

One of the ICU nurses who contracted SARS said she could not imagine how difficult it must have been for those nurses and other health workers who had to stay behind and work with SARS patients:

> Not that I was glad that I was sick, but I can't imagine how the nurses that worked there after, because, not that we were lucky to be sick in the beginning, but how it must have been so taxing on them to know you can get it so easily and then you're home with your family and stuff and just to be wondering every day, are you going to get it? Not that we're glad we got it early, but to know that you can get it so easily and to be working in that stress on a continuous daily basis, and they had to wear those masks. I heard during break they'd sit as far apart from each other, and always wearing their masks, and that must have been a real bad ordeal for them. It took a toll on everybody, I guess.

One emergency room nurse who worked the week of the 24th described seeing all the sick staff try to do the necessary work while wearing precautions:

> We were calling people in, seven people at a time, so that's what the secretary was doing. We'd get a fax up from occupational health saying these are the next seven people that have called us. So we would call them and they would all come in. We had seven rooms, only one of them was negative pressure. They were just seven private rooms. And we put them all in the rooms. Basically, there was four of us, two of us started at room one, two of us started at room seven, and we just worked towards the middle. One person was inside the room, called the dirty nurse, they were in there with the patient, and the other nurse was the clean nurse, on the outside. We were wearing goggles at that point. We now had the goggles and the hairnets and the gowns and the gloves and the masks. And then the one nurse inside did all the blood work and the IV and handed everything to the other nurse on the outside that sent everything to Public Health. I remember it was a lot of blood work because we had to take blood samples for, I think it was Atlanta needed some, Winnipeg needed some, and Public Health needed some, so we were taking about 10 vials of blood from these people.

She said that during this time infection control was doing their best to try to educate them and ensure they were protected:

> Our infection control nurse had been showing us to make sure that you pinch the nose [of the N95 respirator]. I think we were all fairly aware of our infection control procedures, and how to take off the mask and how to take off the gloves. They actually went over that with us when we first came in, when was it back on that Tuesday [the 25th], Wednesday [26th], Thursday [27th] … When I came in on the Tuesday [25th], we were given a piece of paper, the infection control nurse was there and she was reminding us all on how to put the mask on properly, how to take them off properly, in what order to do it, when you take the gloves off, when you take the masks off, and how to wash your hands, we did a hand-washing thing as well. She was around to remind us of the proper isolation techniques.

Another emergency room nurse described the fear of going into the room of a SARS patient and the unbearable conditions that came from wearing the mask for long periods of time:

> It was extremely fretful and frightening. The patient that I personally looked after was my assigned patient who had SARS. Going into her room was very frightening. My heart was pounding. My respirations were increased, sweating. The gown was hot, and I remember when the specialist was done, she had already been on life support, but we needed to place a new line, intravenous line, central lines, and once the lines are placed you have to stay in the room to reconnect the intravenous lines to the new line, and then you'd have to stay there and wait for the x-ray to be done to make sure the line was in the right place. And then you have to tidy up the patient, and you'd have to make sure she was turned every two or three hours, and you had to go in to give medications, and give her treatment, and make her comfortable. And I remember with this patient, myself and another colleague, it took us hours just to look after her, and then we'd take turns going in, and when we put the lines in the first time I remember we were in the room for more than an hour and a half trying to get her sorted out.
>
> And at one stage we couldn't see. I'm sure we were hypoxic because we were breathing the same air through the mask, and we had to stop and come out, and go outside to take some fresh air, and come back in again while someone watched her. So it was very awesome, awesome in the sense of frightening, and you know, a lot of apprehension and anxiety. I had a lot of headaches, and I remember I had marks on my nose, like a sore, from the mask because we were wearing, by this time we were wearing masks all the time. We couldn't be within each other's vicinity, we had to be so many metres away from each other, we couldn't sit at the same area at the desk, the staff. And we were always wearing the mask, and I ended up having a lot of migraine headaches.

She said that they found support in each other, but constantly worried they would become ill like so many of their colleagues:

> At times we felt claustrophobic, so you knew your limitation, and so you would just come out, take a break, and tell our colleagues what's happening so that we could cover each other. We were very supportive of each other. We had to be, and you know, understanding was very evident at that time, and that helped a lot each other knowing that we knew what the dangers we were in, and we just prayed to God that if we took precautions that the hospital provided, and that we used them every moment that we were there, it would protect us from getting sick

> ourselves, because we had friends, colleagues, in the unit who were all sick, and they were sick from SARS.

When the hospital closed, staff were required to isolate themselves from their families, until they had passed their 10-day incubation period. The above-quoted nurse described the hardship of isolation:

> And then we were told that we had to be isolated at home from our families, for 10 days, because by then we had SARS thing in the hospital, and so they were concerned that we didn't bring anything home to our families … So I spent ten days away from my husband and my children, and I couldn't sit with them and watch TV, or do anything together; so that was also very distressing.

She said that they felt isolated and alone, as they had to avoid family and friends and sensed mistrust and suspicion from others:

> We felt that we were not cared for enough from the public, and people were mistrustful of us, and I remember the vice-principal at my youngest child's school called one day to say was it safe for my son to come to school, because they knew that I was a nurse. And some people were suspicious of us, and didn't want to have anything to do with us, and I didn't allow any of my friends or my children's friends to come to our house, and I didn't allow them to go to their friends' house, and there was minimal contact with anyone. We felt alone, in general, because of this experience. I didn't want to endanger anyone else's life, so we kept to ourselves for a long time, until the thing was less rampant. It was difficult, the loneliness, and isolation, and the uncertainty also, and wondering whether you'd get it because you had been in the thick of things, and if you would bring it home to your family.

One emergency room nurse who cared for ill staff as they came in for assessment the night of the 23rd and in the days that followed, tried to convey the agony of seeing ill colleagues and the uncertainty of what would happen:

> To watch this unfold, I don't have vocabulary to express it. Just thinking about it has been difficult. I think you can't comprehend, especially SARS I, how scary it was at that time because we had no idea. As we were shipping these people out to West Park and we are gloved, gowned and masked and you are reaching to touch these people not knowing if you

> will ever see them again, helping them get onto the bus, all we knew in the media was that people were dying. They probably had no idea what they were facing either. In my nursing career I have never faced anything so frightening. Looking back, I think at the time because we were tired and we were working, because it was so surreal you didn't have the opportunity to absorb it. That's when the nightmares came. The going in circles, the questioning, did we do it right, could we have done it better?

The above-quoted nurse told the Commission that they had to care for colleagues with whom they had worked only days earlier, all the while wondering if they would be next:

> Some of the people ill were people I worked with … so I had to go in and treat and care for them and keep their spirits up when I had no idea if I would be the next patient.

Another nurse who worked in the emergency department and worked with SARS patients said that all the unknowns made working scary:

> It's scary because you hear a lot of news going on. You don't know what's happening, you don't know what kind of illness. You don't even know if the treatment is right.

Dr. Sandy Finklestein, when asked what went right at the Scarborough Grace Hospital during SARS, said one thing that went right was that staff continued to come to work, even though no one had all the answers:

> The staff only because of the type of work we do, providing care, came to work for the most part, and continued to provide care for as long as they were able. I believe very few staff just didn't show up, I know a few who did not, but the vast majority just came to work. They were scared, they were worried about what was going to happen to them and to their family, and because of the lack of information we were getting, it was impossible to answer questions in the hallway. I couldn't walk 20 feet in the hallway because, I'd hear there are more people sick, is it spreading here, what do we need to do, what should I tell my family? All the impossible-to-answer questions.

One of the above-quoted emergency room nurses, who later worked at the Scarborough General site, described the challenge of working in full precautions as the weather began to grow warmer:

> The problem with working at the General is they didn't have air conditioning and May was very hot, and at one point we had to double everything, we had to, when you were in emerg, you had to wear your gown, you had boots on your shoes, you had to wear your gown, your gloves, your mask, your goggles and your hair hat; every time you dealt with a person, you had to put another layer on, you had to put another gown, another gloves and the visor on over top of what you were wearing, so you had to do double protection for people. It was very uncomfortable. I remember we had a cardiac arrest and I ended up being the one that was doing the chest compressions and I had never been so hot in my entire life, thinking, how did I manage to get this job? I want to be the recording nurse that has to stand there and write, not the compression nurse. You're just sweating buckets, it was unbelievable.

One Scarborough General nurse who cared for patients during SARS kept a journal of her experiences. One journal entry, recorded towards the end of the SARS outbreak, provided:

> I went to a code blue on a SARS unit and I had to wear the full spacesuit and face mask and shield. Very scary. And the impact has hit the city hard. Tourism has suffered. The world has become a very small place. We knew that disease was only an airplane flight away. I'm writing at work, my mask is very hot and it's itchy and it's 1:45 a.m.

The front-line health workers who came to work every day in the face of fear, uncertainty and confusion displayed a courage and dedication to helping others that is humbling to all Ontarians. We owe them a debt of gratitude and must ensure that they are never put in the same position again and that the system is better prepared to respond to the next infectious disease outbreak or health emergency.

Supporting the Ill

As health workers became ill and were hospitalized throughout the GTA, they were isolated, scared and alone. Some health workers post-SARS said that they felt a lack of support while hospitalized. Some health workers reported that they did not receive any contact while hospitalized, and that their only source of support was each other and their families, with whom they could only communicate by telephone. And, while this was not the experience of all those who became ill, it is important to acknowledge those who felt lost and alone, isolated from their families, friends and colleagues.

One nurse described her experience to the Commission:

> No, I don't think I heard anything from anybody from work, and actually when I came back to work, people were saying that they were having a hard time getting in contact with me, kind of thing, just because of confidentiality. I didn't know my name was blocked from the hospital so the only people that knew my phone number in the room was my parents. They were the only people that I called. Some of the nurses were saying they were trying to call or they weren't allowed to talk to me.

A universal theme among health workers interviewed by the Commission, among both those who became ill and those who remained well, was that they were worried not only for their own well-being but for their colleagues'. Those nurses and other health workers interviewed by the Commission said that they desperately wanted information about how their friends and co-workers were doing. But they were not told how many were sick, who was sick, where they were and how they were doing.

As one nurse who was hospitalized for SARS told the Commission:

> There was so much confidentiality that nobody knew unless one of my friends told them and staff didn't know and there were people that we worked with at the Grace who didn't even know I was off because they all were in quarantine and they didn't even know that I was off or that I had it or anything. They were really upset by that. Some of them found out ages later, phoning, profusely apologizing for not at least calling me and saying hello while I was in hospital, but they didn't know I was off with it. And I don't think that's the right way. I mean, I understand some people maybe didn't want other people to know but I haven't got that feedback from anybody who that actually had it [SARS]. Word of mouth was that we all felt very isolated because of that.

Much like communication, a feeling of being cared about and supported during their illness had a huge impact on the way ill health workers looked back on their experiences during SARS.

For those health workers who were ill, any support that was given was greatly appreciated. Many health workers cited the Chaplain at The Scarborough Grace Hospital as someone who provided much-needed support and comfort during their hospitalization and after:

> I think the one person that really stood out as being so supportive was our chaplain, Jim Ellis … He was just phenomenal. He would call us even when we're in hospital and just say, are you having a good day, bad day? How are you? And he would try, with other people's permission to talk about how our co-workers were doing. He would say, do you mind if I … he would share information so that we had a sense of community and he just really kept us updated on what was happening within the hospital. He was a real, tremendous support. If anybody deserves a badge in all of this, it's him and his wife.

The ICU nurses expressed gratitude that Dr. Finklestein and Dr. Rose came to see them. And some health workers from the Scarborough Hospital volunteered to work at West Park, to help care for their own. Information about how colleagues were doing was passed back and forth through these informal, but important channels. As one nurse said:

> Some of our colleagues, I know, from day surgery and the outpatient department had gone to help out as well. And I know some of our doctors, Dr. Rose had gone to visit the girls, and he updated us as to what was going on as well.

A nurse who was hospitalized at Ajax Pickering spoke of the kindness and caring shown to her by the nursing staff:

> The nurses at Ajax Pickering who came in in the morning and helped me wash and brushed my hair and sat with me and talked with me until my breakfast arrived. Made sure I was okay and then they'd go off. Then if they had a break, would come in and sit and do the crossword puzzle with me. You just absolutely never felt bad when you were there.

While hospital concerns about privacy and confidentiality were important and cannot be minimized, thought must be given to how to support staff in future outbreaks, in the event some should become ill or need to be quarantined. While there were clearly restrictions on access to health workers who were ill, for legitimate and appropriate reasons, people like the chaplain managed to find ways to navigate within the boundaries of privacy and confidentiality and yet provide support and communication. Identifying and implementing ways to network staff and to link up those staff who want to be in touch with others, ensuring there are regular calls from management, even if there is nothing new to say, even if the call is simply to ask how someone is doing, cards, letters and other messages, all mean so much to someone who is isolated. One of the lessons of SARS is the importance of ongoing contact and support, so that health workers who have sacrificed so much are not left feeling alone, isolated and forgotten.

Contact Tracing and Losing the Epilink

Even with the closure of Scarborough Grace Hospital on March 25, 2003, public health officials still worried about where else the disease might be. They knew there were thousands of contacts and they did not have the resources to track every one down and to contact everyone immediately. They knew that patients and ill contacts may have entered other hospitals, either through transfers or admissions. The net had to widen beyond the Scarborough Grace Hospital, since no one knew how far SARS had spread. As Dr. Henry told the Commission:

> I think we considered it officially closed on the 25th. The 25th is when all staff had been notified, but it was a process over time. And we had put in place a whole bunch of measures that we thought would stop this disease, no matter what, whether it was airborne, or droplet, no matter what it was. And we were really criticized for being too draconian, for putting in too much, for making people do things that were too, you know, changing your masks and gloves and gowns between every patient, was too onerous, it couldn't be done, so it took a lot of hand holding to get people through that. And we didn't know at that point, it was basically you put in everything that you think is going to help, and then you wait the incubation period and you see what happens. So that was what we were doing.
>
> Having said that, at the same time, people are still starting to get sick, people are getting sick from the whole incubation period, were starting to get more and more and more people who were ill. If we looked back on it, the number of people who were actually ill that we hadn't found yet would be several hundred, by the time we actually put in place the control measures. The other difficult thing was the division of labour. Who was going to follow the people who are on work quarantine, which

> the hospital was going to do, and Toronto Public Health was going to follow people who were on home quarantine and all of the people who had been anywhere near that hospital for the 10 days before the 25th. It was in the thousands, we had about 5,000 people that we needed to follow up with. So that was a huge burden in what we were doing in Public Health.
>
> After that time, there were a couple of things, so around the 25th, it was clear to me that there was a huge number of people, in the thousands, who had been exposed at some point, during either contact with the family, or contact with the hospital. And they were going into emergency rooms all over the region, they were going into North York, they were going into some of the hospitals in York Region, they were going into hospitals in Durham, they were going into Scarborough General, they were going into the downtown hospitals, and that was, on the 26th I think, it was, when Ernie Eves made the public announcement that he was declaring an emergency …

The reality is that by March 26, 2003, Public Health officials could not identify all possible SARS contacts and no one knew how many SARS cases had yet to be identified. SARS was running ahead of the attempts to control it.

Dr. Bonnie Henry's notes of the outbreak convey how the crisis was growing each day and revealed the need for a strong response:

> On Wednesday, March 27 I returned to TPH to help establish our system for contact follow-up and case management that cases were increasing in number at approximately 8-10 per day. During that period of time a number of other emergency departments across the city, particularly North York General, Markham Stouffville Hospital and Mt. Sinai hospital and Sunnybrook hospital were being flooded with emergency patients that may have symptoms of SARS, particularly health care workers from Scarborough Grace or people who had been at the Scarborough Grace during the risk period. In addition, Scarborough General the other Scarborough hospital had received a number of Scarborough Grace patients with symptoms of SARS that had overwhelmed their Emergency Department. During that day as well we strongly encouraged the provincial government to declare a public health emergency as it was becoming clearer to Toronto Public Health and myself in particular that this was spread beyond the borders of the City of

> Toronto and would quickly overwhelm our system if we did not put in severe control measures very quickly.[181]

On March 26, the Premier declared a provincial emergency. More will be said about the declaration of emergency below. SARS was moving beyond a local outbreak and it was outside the capacity of an individual health unit to manage.

Also on March 26, 2003, the Provincial Operations Centre issued a directive to all acute care hospitals in the Greater Toronto Area. The directive set out the precautions that had to be taken for staff and patients, as well as restrictions on visitors, volunteers, and the transfer of patients. The directives also required that each hospital establish a SARS-specific isolation unit. The implementation of precautions and strict infection control proved to be the most effective tool against SARS: as precautions went up, SARS cases went down. Again and again during SARS this proved to be true. We will see, tragically the converse was also true; when precautions were relaxed in early May, SARS sprung up at North York General Hospital.

After the emergency was declared, the discovery of an unrecognized case of SARS at York Central Hospital and at Mount Sinai Hospital would further stretch public health capacity and increase the nûmber of potential contacts. As Dr. Henry's notes show, things were getting worse before they got better:

> Over the next week resources were brought into the Provincial Operations Centre to help oversee the outbreak at the TPH level. The number of cases that were occurring again was at approximately 10 per day and the case management and the contact management was becoming extremely difficult and new resources were sought from within TPH. This unrecognized case of SARS who was on retrospect febrile in the cardiac care unit at Scarborough Grace hospital accounted for transmission to 50% of the CCU staff as well as a number of other patients on both 3D and the CCU. A third patient was identified in the ICU of Mt. Sinai hospital. This person had only casual contact with the Scarborough Grace hospital where he had been at a chiropody clinic the week before. He was assessed by clinicians including Dr. Rose and Dr. McGeer at Scarborough Grace and was not felt to be a SARS patient and was thus transferred to the ICU at Mt. Sinai without precautions.

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[181] Dr. Henry's Summary of SARS.

> This person accounted for transmission to at least 4 staff members at Mt. Sinai hospital.[182]

As the number of possible contacts grew, the problem of losing the epilink or being unable to trace back all of the contacts would plague public health officials in both SARS I and SARS II. As noted above, many contacts were never identified or contacted by Public Health prior to becoming ill. For example, by April 1, 2003, there were 124 SARS cases identified in Toronto. But full contact information had been gathered on only 60 per cent of the cases.[183] The April 2, 2003, minutes of the SARS Science Committee revealed that they knew that all contacts might not have been discovered and that the absence of a contact history or travel did not necessarily rule out SARS if a patient presented with SARS symptoms:

> Given that a) there may now be spread into the community and that there may be no contact history, b) that appropriate barriers should always be used for respiratory cases and that c) physicians are potentially "frontline" for detection of new community cases – we do not agree that "without contact history or travel exposure the likelihood of SARS is negligible…"[184]

This was one of many thoughtful observations made by members of the Science Committee during the course of the outbreak about the problematic nature of the case definition, particularly the requirement that before a patient with SARS symptoms could be diagnosed with SARS there must be an epilink such as known contact with a known SARS patient or travel to a known SARS risk area such as Hong Kong.[185] In hindsight such observations leap off the page and compel the obvious question whether the epilink was too narrowly defined. Common sense might suggest that a patient with SARS symptoms in a hospital with SARS cases was at least as likely to have SARS as someone who had just returned from Hong Kong. But being a worker or patient in a SARS hospital did not meet the rigid epilink requirement for a SARS classification.

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[182] Dr. Henry, Summary of SARS.

[183] April 2nd Minutes of Epi and Science Group.

[184] April 2nd Minute of Epi and Science Group.

[185] An even earlier recognition of this problem appears in the prescient diary note made by a member of the Science Committee as early as March 30, 2003:

> Problem of case definition: are we missing things because we insist on travel or contact; What about syndromic surveillance? . . .

But if presence in a SARS hospital had been recognized as an epilink, or even if there was some commonsense leeway to permit a SARS diagnosis by an experienced clinician, it is obvious that alarm bells would have gone off much sooner at crucial times, particularly in the lead-up to the belated discovery in late May that SARS had been spreading undetected at North York General Hospital.

All those unaware that they had contact with SARS, some of them ill and contagious but without direction to quarantine themselves continued about their daily lives, exposing their families, friends and other members of the community. Some, like Mr. H, returned to hospital and were admitted, exposing entire units of health workers to SARS. And as officials would soon realize, some exposed and ill patients had been transferred out of the Grace to other hospitals, where they spread the outbreak even further.

The Struggle to Contain the Outbreak

By the end of March it was clear that SARS had spread into Toronto hospitals. But no one was certain where it was or how many people had been exposed to it. A March 29, 2003, news release from the Ministry of Health and Long-Term Care offered this cautionary advice to hospitals:

> All GTA and Simcoe County hospitals must assume the possible presence of SARS within the hospital and take necessary precautions.

As April unfolded, health workers valiantly battled the disease on the front lines. Infectious disease experts and other medical experts attempted to provide science-based advice to those working on the front lines, on a wide variety of topics including infection control, isolation techniques, protective equipment, diagnostic criteria, incubation periods, screening protocols, discharging patients and high-risk procedures. At the same time, medical officers of health and public health staff tried to trace and quarantine contacts, monitor those under quarantine, follow those discharged from hospital and, where necessary, provide advice and direction to hospitals and other health care providers.

On March 26, 2003, the first SARS Assessment Clinic was opened at Women's College campus of Sunnybrook and Women's College Hospital. These clinics screened those persons who reported experiencing SARS symptoms and/or those who reported having had contact with a SARS case, so they could be screened without having to enter a hospital. More assessment clinics were established in April.[186] This marked a coordinated, broad-based effort to identify SARS cases prior to them entering hospital. It also meant more people could be screened faster, without tying up resources of emergency departments.

Notwithstanding all the unknowns about SARS,[187] many of the lessons from Scarborough Grace and other incidents of transmission were being learned by the Science Committee. The work of this remarkable group of experts was invaluable to the containment of SARS. For example, contrast the handling in April of the Centenary Hospital transmission and closure with what was done in the early days of SARS. On April 5, 2003, following the identification of the unprotected exposure of Mr. S, Mrs. S and the other S son at the Centenary Hospital, the Science Committee identified the following necessary steps to be taken:

- Centenary Hospital is functionally a Category three hospital and is closed immediately;
- All transfers and discharges from the time of initial admission (March 26th subject to verification) must be traced as the number one priority. Emergency, the floors that they were admitted to and Diagnostic areas (including pathology) will be the focus of the initial circle of tracing. [Name provided] will work on tracking transfers and discharges.
- Staff should not cross-over.
- The hospital needs to survey their patients for SARS symptoms on a ward-by-ward basis immediately.
- The staff is on working quarantine as per policies developed for York and SG
- Diagnostic films from March 26th should be reviewed for pulmonary infiltrates as the initial stages of syndromic surveillance.
- A SARS Response Team must be brought in immediately (see attached Recommendations for the development of an Outbreak

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[186] April 1, 2003, Markham-Stouffville; April 2, 2003 Lakeridge Health Centre in Oshawa; April 3, 2003, Trillium Health Centre in Etobicoke.

[187] For example, April 4th Minutes of Science, Epidemiology and Executive Meeting note "Pressure points for the Science Group still remain and further investigating the unknown cases (i.e. no known risk factor as yet), the incubation periods, case definition refinement and linking the epi data with the laboratory data. Transmission in hospital and in home are priority studies as this information is needed for immediate policy development and resource planning."

> Control Response Team). [Name provided] role will be to act as the medical coordinator for all the hospitals' response teams.
>
> - The ambulance workers involved in the transports need to be contacted as soon as possible and assessed for symptoms.[188]

What is troubling, however, is that response plans and outbreak management teams and policies had to be developed on the fly, as things developed. Ontario's health care system had been caught unprepared. As the Commission noted in its first and second interim reports, Ontario did not have a pandemic plan. The Science Committee had to make it up as they went along, with some help from the British Columbia Pandemic Plan.

In addition to responding to immediate day-to-day needs and crises as they developed, those working in the Science Committee had the difficult task of focusing longer-term needs as well as considering worst case scenarios. Minutes of the Science Committee from the first few days in April identified these tasks:

> JY sees three main tasks for the committee:
> - quick opinion on policies as the need arises
> - protocols and policy development for the "longer" term …[189]
> - planning for future scenarios (blue sky) – this planning should be done relative to where we are now and relative to the capacity of the healthcare system. The most immediate planning should be for expansion into the community.

As part of the "blue sky" thinking, the Committee had to identify possible scenarios. Among them, they identified not only the risk of spread in the community, but also the possibility of "widespread community spread with significant morbidity and mortality."[190] In the latter scenario, they concluded: "the GTA and/or Ontario would act as the world epicenter potentially."[191] The scenarios included the following terrifying possibility: "Must consider the possibility that this is not controllable – that there will be an endemic event and herd immunity would eventually develop."[192] This statement reflected the uncertainty the experts faced, in respect of where the outbreak was going and whether it could be contained.

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[188] April 5, 2003, notes of the Ontario Scientific Advisory Committee.

[189] This is an excerpt from the minutes. The full bullet goes on to detail how JY will translate directives and route they take through gvt. The latter portion reads "JY then translates for the gvt, keeping in mind available resources and current public policy. In other words, he acts as the 'filter'. Where there is disagreement, he had agreed to inform us as to the rationale. In addition, the final policy that goes out will then be brought back to the group to maintain confidentiality".

[190] Blue Sky Continued: Scenarios for the Community (document of the OSAC)

[191] Blue Sky Continued: Scenarios for the Community (document of the OSAC)

By April 7, 2003, the Science Committee noted that there had been no known transmission at the Grace Hospital since detailed infection control procedures had been put in place.[193] While there had been secondary contacts in hospital workers developing SARS, there were no new cases in the hospital itself.[194]

By April 8, 2003, many hospitals were off Code Orange status and surgeries had resumed[195]. In Greater Toronto Area hospitals, volunteers were back and visitors were permitted (one per patient)[196]. The goal was to move towards hospitals in the Greater Toronto Area resuming elective admission and surgeries.[197]

In the days that followed, the outbreak appeared to be coming under control, and the science committee was able to focus less on immediate outbreak management and move towards refining policies and addressing outstanding issues.[198] It appeared that the immediate fires had been put out. Little did anyone know that it would soon rekindle, but this time the epicentre would be North York General.

Recovery and Reopening

The impact of SARS on the Scarborough Hospital, particularly the Grace Division, was immense. The hospital remained closed for almost three months. The emergency department opened on June 5, 2003. On July 18, 2003, the hospital moved to a Level 0 status, which meant it had no cases of SARS and could return to normal activity.

Ms. Raymond told the Commission that reopening was even more difficult than closing and that it had to be done in a very careful and gradual manner:

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192. Blue Sky Continued: Scenarios for the Community (document of the OSAC)
193. April 7th Minutes of the Ontario Scientific Advisory Committee.
194. April 7th Minutes of the Ontario Scientific Advisory Committee.
195. April 8th Minutes of the Ontario Scientific Advisory Committee.
196. April 8th Minutes of the Ontario Scientific Advisory Committee.
197. April 8th Minutes of the Ontario Scientific Advisory Committee.
198. April 8th Minutes of the Ontario Scientific Advisory Committee.

> Reopening was actually harder than closing. You might not have thought so but again, during reopening, I was very conscious that we wanted to be sure that we were reopening with the utmost attention to vigilance and also the utmost attention to the level of service that we were going to provide. I was aware that we had had an extended period of limited resources, that our staff were tired; some were ill and not back to work. So we wanted to be sure that we reopened in a very gradual, phased-in way. We had several discussions with the focus on the level of service that needed to be provided around infection control and treating individuals. We had several discussions about the patient experience, and we were aware that we had to rebuild community trust in the institution and wanted to be sure that patients felt comfortable coming back, were well received, were well cared for, but with attention to what we were terming now the new normal, and to be sure that we weren't just introducing services or reopening services the way they were before, that we were also adding in that extra attention to infection control and screening. So we had a general reopening.
>
> We had an external audit. We first did an internal audit, to make sure ourselves that we believed we were ready to reopen, and then we had an external audit to verify from an independent, external expert – actually, it was a team of three people who came to review our practices – things we had in readiness to verify that we were ready to reopen. We went through that process before we reopened anything and then once we passed that audit we knew then that we were meeting 100 per cent standards that were expected at the time from the advisory group on infection control, and had reintroduced first outpatient activity and then slowly new admissions, so we would be back up to full program … [It took] several weeks. The final outpatient activity opened first. We did not want to reopen the emergency department until the physical facility changes had also been made. We also had several weeks before we were able to open intensive care because of the staff impact, and so for a period of time we reopened ICU and CCU as a combined critical care, and we were not up to full complement until several weeks after the reopening. Some programs that had been combined during the outbreak, maternal child care and mental health, both were on a different timetable for reopening than other programs … Mental health was also delayed by several weeks.

Staff who had become ill struggled to recover from SARS. Many returned to work but some were unable to go back and even today, three years later, have lingering health problems as a result of their illness. And for many of those who were ill, even years after SARS is over, the memories of SARS bring back a time of fear and uncertainty. One nurse who contracted SARS described the long-term impact of SARS:

> Because what I went through with SARS, and what my family went through, was devastating. I had no idea that I was going to experience all the after-effects from SARS that I did. I had no idea what I was in for when I was being discharged. Everyone thinks you're discharged, you're well, you go home. But, there's a second hurdle that you have to face, and that I was not prepared for that at all. When I came home and I looked at the faces of my husband and my two daughters, I realized what they went through in the two weeks that I was hospitalized. They were drawn and gaunt and pale and worried, and my husband sits at the edge of my bed and he says, you know, I thought you might die. I said, you honestly thought I might die? He said, yes, I thought you might die. And that really grieved me. That hurt my heart, that my family went through that.

Post-SARS, many nurses say that the experience of SARS, terrible as it was, brought them closer together and that it strengthened the relationships between doctors and health workers. As one health worker said:

> I think given, the information we were not given, the circumstances we were put in and what we had to work with, I think that the nurses went well beyond any expectations of trying to cope. Physicians as well, especially the early physicians who came to emerg. Dr. Finklestein recognizing and getting that patient isolated started the ball rolling. There's a cohesiveness between the physicians and the nurses over this too, there's a change in the relationship there, as well. I think, the 20 per cent that never got what we do, are getting it now. The majority do get it. The majority know which side the bread's buttered on. The majority know they're only there for 30 seconds, I'm there for 12 hours. If you want to know what's happening with a patient, ask me. So there's a change in that relationship, again for the better. I think we see their perspective better and they definitely see ours better. The team effort, going from site to site. We've only been amalgamated as a facility for four years and there was still all that "we and they" and all that kind of stuff. SARS has brought us closer together. We're working more as a team we're actually the Scarborough Hospital, not just the General or the Grace. We're actually coming together.

One nurse said that she hoped that everyone learned lessons from SARS and move forward better prepared for the next health emergency or infectious disease outbreak:

> I think we're hoping that there will be something good come out of it. We don't want blame. I don't think anybody wants blame, because nobody really knew at the Grace what was happening. And I think a lot of information didn't get passed on because people were just hoping that it was only the Grace that was affected at the time. I just think we need to know that if it ever happens again there's going to be some kind of help.

Vancouver: A Tale of Two Cities

Introduction

On Friday March 7, 2003, within a three-hour period, two middle-aged men with undiagnosed SARS, one in Vancouver and the other in Toronto, were admitted to hospital. Though outwardly similar events, the outcomes were poles apart.

At 4:55 p.m. (eastern time), Mr. C, a 55-year-old who had just returned from an Asian trip, was taken by ambulance to Vancouver General Hospital, the province's largest and a major teaching institution. No SARS outbreak resulted. B.C. would have just four probable cases: Mr. C, two other Vancouver residents who had been exposed to SARS in Hong Kong, and a nurse who was the only case of local transmission. No other nurse, physician, respiratory therapist, cleaner or other B.C. health worker caught the disease. Nor were there any deaths. B.C. did have 46 suspect cases, but they were of a different magnitude than Ontario's 128 suspect cases.[199]

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[199] Suspect cases in B.C. had generally been to countries with SARS, had respiratory symptoms, and were treated as having SARS as a precaution. None was exposed to SARS in B.C.; none transmitted the virus.

Dr. David Patrick of the B.C. CDC told the Commission:

> It's an interesting thing that case definition, as it evolved and that's the case almost with any epidemiological investigation of an unknown thing that you remember that suspect cases were people who had specific symptoms who had either been a contact with somebody who is, you know a probable SARS case, or somebody who was coming in from a place where SARS was known to be transmitted at a relatively high level, now back to probabilities, if you have a suspect case who's been in contact with somebody who actually has the virus, well they have a reasonable probability of, of coming down with it, that was a large proportion of the suspect cases in Toronto, they'd been around, around a case and maybe they had a little bit of fever, or something like that, and they could well have come down with a, with the full thing. Almost all the suspect cases in B.C. were people who had simply come from south China or somewhere in the vicinity, and within a specific timeframe developed fever or other non-specific symptoms, and of course people are going to do that, but when you think about it, there's orders of magnitude difference in the probability than actually having, having SARS. That was a lesson for us in terms of, you know, how we categorize suspect cases, because we, we saw you know, a newspaper article saying, now Vancouver has 60 cases of SARS where they are just adding up suspect and cases under investigation and, and the few real cases that we had, so we had an economic whack, more out of communications then anything else.

Almost three hours later, about 4,500 kilometers to the east, a vastly different set of events was set in motion. As noted earlier in this report, at 7:45 p.m. (eastern time), Mr. T, a 43-year-old who had been looking after his dying mother, presented to the ER at Scarborough Grace. The ensuing public health crisis brought Ontario to its knees. The province ended up with 247 probable cases. Almost half were nurses, physicians, respiratory therapists, cleaners or other health workers. There were 44 deaths, including two nurses and a doctor.[200]

Vancouver is a useful point of reference for Toronto's response to SARS.

While many of the circumstances in Toronto and Vancouver were different, they also faced strikingly similar challenges, challenges that confronted them at virtually the same time. Like Toronto, Vancouver tackled SARS in the beginning when experts had far more questions than answers. This was before the disease was identified, before it was named and before anyone knew whether it might spark a pandemic.

Despite similar challenges, the outcomes in Toronto and Vancouver were vastly different.

How could the experiences of the two cities be so unlike? Was it luck? Better planning? Better safety culture? Better public health? Better communication? Better systems? Better surveillance?

This chapter will tell the story of how Vancouver contained SARS and Toronto did not.

By providing a contemporaneous comparison, this story will extend beyond this chapter and resonate throughout this report. As the historian Jan T. Gross has said:

> The best sources for a historian are those that provide a contemporaneous account of the events under scrutiny.[201]

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[200] Dr. Colin D'Cunha, presentation to the SARS Commission, SARS Commission Public Hearings, September. 29, 2003.

[201] Jan. T. Gross, *Neighbours: The Destruction of the Jewish Community in Jedwabne, Poland* (Princeton, NJ: Princeton University Press, 2001).

The Events of February 2003

In the months leading up to SARS, some members of the Chinese community in Vancouver had begun hearing about a mysterious disease outbreak in Guangdong, and had started buying surgical masks.

> Some of my customers were asking me if I can get the masks for them to send overseas for the family who live there, a Vancouver pharmacist [told the CBC].[202]

Health workers in Vancouver with ties to China had also heard of worrying events in the Far East. Dr. Tom Lee, then medical director of the emergency department at Vancouver General, said:

> Actually I was there [in Hong Kong] at Christmas for a visit and reading in the Chinese newspaper there's all sorts of activity in southern China that were being reported.

Health officials in B.C., meanwhile, were systematically monitoring developments in China. They had long been preparing for the possibility of an influenza pandemic. In 1999, mindful of the outbreak of H5N1 avian flu in Hong Kong in 1997, British Columbia set up a pandemic influenza advisory committee. On the eve of SARS, in February 2003, the committee's work culminated in the release of B.C.'s pandemic plan. At the time, Ontario did not have a pandemic plan, and the federal plan was still in draft form.[203]

Dr. Danuta Skowronski, an epidemiologist at the B.C. Centre for Disease Control (BC CDC), told the Commission:

> We began working on the plan through our BC Pandemic Influenza Advisory Committee in 1999 and I distributed it in February 2003, soon after it had been approved provincially, because of the reports I was hearing coming from south-east Asia about a cluster of severe respiratory illness in China and resurgence of H5N1 in Hong Kong. It turned out

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[202] "Behind the mask,"CBC News Online, November 19, 2003.
[203] SARS Commission, first interim report, pp. 39-40.

> that the cluster in China was not influenza (it was SARS) but when we heard about simultaneous resurgence of H5N1 and cluster of severe respiratory illness in China, we didn't want to take any chances. We alerted the health care system through electronic bulletins and distributed our pandemic plan – recognizing it would be an evergreen work in progress and it was best to get it out sooner than later.
>
> We wanted the field to have a plan, defining roles and responsibilities during a pandemic, just in case. At the time, we didn't know what it was, but we believed that, either way, a plan outlining what to do in the event of widespread community outbreaks of severe respiratory illness due to a novel virus, was needed and the framework for pandemic influenza planning would serve as a useful guide.

While pandemic influenza is different from SARS, Ontario learned first hand that a pandemic plan can be a useful tool when combatting a new disease. As noted in the Commission's first interim report, B.C.'s plan played an important role in the early days of SARS to prepare contingencies in case SARS spread widely in the community.[204]

Unlike Ontario, where the system for communicating threats to the health system was fragmented, B.C. had an effective means of alerting its health system:

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[204] See SARS Commission, first interim report, pp. 39-40:

> . . . Dr. Young met with the Science Committee, a quickly assembled ad hoc committee of experts, on the morning of April 2, 2003, and asked Committee members to prepare scenarios for the possible expansion of SARS into the community. The minutes reflected Dr. Young's concern about the possibility of community spread and his request for the committee to plan quickly for such an occurrence:
>
>> Planning for future scenarios (blue sky) – the planning should be done relative to where we are now and relative to the capacity of the health care system. The most immediate planning should be for expansion into the community.
>
> One British Columbia member of the Science Committee suggested to fellow Committee members that Ontario's pandemic flu plan be used for this and other purposes, and was more than surprised to learn that Ontario did not have a pandemic flu plan:
>
>> I was shocked. In fact, I said well let's just use the pandemic flu plan and everybody looked at me and there was no pandemic flu plan. And so . . . I just got somebody to e-mail the B.C. pandemic flu plan over.

> An electronic distribution system was established to regularly disseminate communicable disease bulletins to healthcare facilities across the province.[205]

Alarmed about reports from China, the BC CDC used that electronic distribution system to issue its first alert on February 20, 2003, requesting,

> … enhanced vigilance for severe influenza like illness in returning travelers from mainland China or Hong Kong or among their close contacts.[206]

One expert at the B.C. Centre for Disease Control told the Commission:

> … we were fairly predisposed to react to an emerging respiratory threat out of Southeast Asia. And when we heard of this avian influenza identification in Hong Kong in early 2003, February 2003, we were predisposed to respond. And we were fairly twitchy about that. That avian influenza first emerged in 1997 and it was, in our minds, the next pandemic candidate or threat.

Alerts were repeated on February 24 and February 28.

A medical study said these alerts,

> … noted both avian influenza and a mysterious outbreak of atypical pneumonia in Guangdong Province in southern China. These alerts for BC clinicians, infection control practitioners and public health authorities called for enhanced surveillance and for infection control measures with respect to patients presenting with unusual influenza-like illness after returning from Hong Kong or China.[207]

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[205] D.M. Skowronski, M. Petric, P. Daly, R.A. Parker, E. Bryce, P.W. Doyle, et al., "Coordinated response to SARS, Vancouver, Canada," *Emerging Infectious Diseases* (January 2006). Available from http://www.cdc.gov/ncidod/EID/vol12no01/05-0327.htm (Skowronski et al., "Coordinated response to SARS).

[206] Skowronski et al., "Coordinated response to SARS."

[207] Dr. David Patrick, "The race to outpace severe acute respiratory syndrome (SARS)," *Canadian Medical Association Journal* (April 17, 2003).

The Events of March 7, 2003

While the BC CDC was closely monitoring developments in China and issuing its first alerts, Mr. C and his 54-year-old wife were in Hong Kong. They stayed on the ninth floor of the Metropole Hotel during the pivotal third week of February, 2003. The physician who unwittingly carried SARS from Guangdong was also there at the same time. So was Mr. T's mother. From Hong Kong, Mr. T's mother returned to Toronto, where she became ill and passed the disease on to her son.

Mr. and Mrs. C, on the other hand, left the Metropole to visit Bali in Indonesia, where they each developed a fever and were seen by a physician. When they returned home to Vancouver on March 7, 2003, Mrs. C appeared to be on the mend. But her husband was so ill they went directly from the airport to their family physician. The physician sent him by ambulance to the emergency room of Vancouver General. He also called ahead to alert staff that a very sick patient would be arriving.

Mr. C, who was "at the cusp of his peak infectious period," [208] presented at Vancouver General's emergency department at 4:55 p.m. (eastern time).

Unlike at the Scarborough Grace Hospital, opportunities for spread were quickly limited even though Vancouver's emergency department, like Scarborough Grace's, was busy that Friday afternoon. Dr. Lee, an emergency department physician at the Vancouver General, recalled:

> The Emergency Department was very full. A lot of admitted patients in the department and quite a number of patients wait out at triage.

Within five minutes, Mr. C was isolated in a single bed in a curtained examination cubicle, where beds are 2.5 metres from each other.[209]

Dr. David Patrick, Director, Communicable Disease Epidemiology, B.C. Centre for Disease Control in Vancouver, told the SARS Commission:

> The early exposures that had occurred in Toronto were essentially headed off by that single act of an emergency room physician.

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[208] Skowronski et al., "Coordinated response to SARS."

[209] Chronology provided by Division of Medical Microbiology and Infection Control, Vancouver General Hospital.

The difference between how the index cases at the Vancouver General and at the Grace were handled does not reflect negatively on the physicians, nurses and other health workers at the Grace. Rather, as will be outlined in this chapter, the physicians and nurses at Vancouver General benefited from a number of systemic advantages that their colleagues at the Grace did not have.

While Grace physicians and nurses had no warning about events in China, emergency room staff at Vancouver General were fully aware of the BC CDC alerts, and were actively looking for unexplained fevers and respiratory ailments in patients who had been in Asia.

The Naylor Report credited the BC CDC alerts with helping to prevent further spread:

> … the BC CDC's dissemination of that information was probably responsible for the prompt isolation of the first SARS case in Vancouver. Alerts were also issued by local and provincial public health officials in Ontario, but uptake was apparently inconsistent.[210]

Recalling the events of March 7, 2003, Dr. Lee said:

> I actually started my shift at 3:00 p.m. [6 p.m. eastern time] that day. My colleague … was on duty in the day time and first thing she talked to me about was that we have this Asian man just got off the plane from Hong Kong with a high fever and a cough. And we were watching for actual avian flu, believe it or not. It was a number of years ago because there was some circular from B.C. Centre of Disease Control, I believe in February, saying there are some cases of atypical type activity flu and so we were on the watch out for it. And [she] assessed this patient with high fever and respiratory symptoms and findings on X-rays just so, bilateral changes so it's not a typical pneumonitis. So she was concerned that it could be possible avian flu.

At about 5:10 p.m., or roughly 15 minutes after he was admitted, Mr. C was placed on "full respiratory precautions."

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[210] The Naylor Report, p. 93.

Dr. Elizabeth Bryce, head of Infection Control at Vancouver General Hospital, said:

> Respiratory precautions meant the use of an N95 respirator until the clinical condition was clearer.

N95 respirators were not standard respiratory protection at the Grace, and were not used by staff who treated Mr. T.

This was a significant systemic advantage for Vancouver General. Its emergency department staff were already protected by the kinds of respirators that would not become standard protective equipment in Ontario until weeks later. The ICU at Vancouver General had used N95 respirators for a few years. Fortuitously, the emergency department also began using them some months before SARS hit.

Dr. Bryce said:

> We had used N95 respirators in our ICU for quite a few years, probably starting about 2001 and, in fact, that was the only respirator or mask available to them. We just recognized that we were a high-risk hospital for TB and we had just had too many inadvertent exposures. So that was in use regularly and then [in ER] … we switched over to the same thing about five, six months before SARS.

What also helped to prevent further spread was Vancouver General's robust infection control and worker safety culture and systems based on a precautionary approach.[211]

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[211] Mr. Justice Horace Krever has said:

> Where there is reasonable evidence of an impending threat to public health, it is inappropriate to require proof of causation beyond a reasonable doubt before taking steps to avert the threat. As an editorial in the *American Journal of Public Health* in May 1984 put it:
>
> > The incomplete state of our knowledge must not serve as an excuse for failure to take prudent action. Public health has never clung to the principle that complete knowledge about a potential health hazard is a pre-requisite for action. Quite the contrary, the historical record shows that public health's finest hours often occurred when vigorous preventative action preceded the crossing of every scientific "t" and the dotting of every epidemiological "i".

Address by the Honourable Horace Krever, International Joint Commission, Great Lakes Science Advisory Board Workshop, Methodologies for Community Health Assessment in Areas of Concern, Windsor, Ontario, October 4, 2000.

When dealing with an undiagnosed respiratory illness, health workers at Vancouver General automatically go the highest level of protection and then scale down as the situation is clarified.

This approach was based on a view of how respiratory illnesses spread that was regarded as unorthodox by some in 2003, but has gained currency since SARS.[212]

As one expert at Vancouver General told the SARS Commission: "We're the heretics."

The more orthodox view on how respiratory illnesses spread revolves around the so-called one metre rule. According to its proponents, there is clear distinction between diseases spread by large droplets, which they contend travel not more than about one metre from the infected person, and those transmitted by tinier airborne particles which can travel much farther. If a disease is droplet spread, health workers were advised to use a surgical mask within about a metre of the infected person, which some refer to as droplet precautions. If, on the other hand, the disease is spread by airborne particles, then they were told to use airborne precautions involving the use of an N95 respirator.

Worker safety experts suggest that it is rare for a disease to be spread purely by droplet alone.[213]

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[212] See Dr. Annalee Yassi and Dr. Elizabeth Bryce, "Protecting the faces of healthcare workers: knowledge gaps and research priorities for effective protection against occupationally-acquired respiratory infectious diseases" (Occupational Health and Safety Agency for Healthcare in BC; April 30, 2004); A. Yassi et al., "Research gaps in protecting healthcare workers from SARS," *Journal of Occupational and Environmental Medicine* 47 (2005): 41-50; J.L. Derrick et al., "Protecting healthcare staff from severe acute respiratory syndrome: filtration capacity of multiple surgical masks," *Journal of Hospital Infection* 59(2005): 365-8; National Academy of Sciences, *Reusability of Face Masks during an Influenza Pandemic* (Washington, DC: National Academy of Sciences, April 2006); I.T.S. Yu, Y. Li, T.W. Wong, et al., "Evidence of airborne transmission of the severe acute respiratory syndrome," *New England Journal of Medicine* 350 (2004): 1731-9; Chad J. Roy and Donald K. Milton, "Airborne transmission of communicable infection — the elusive pathway," *New England Journal of Medicine* 350 (April 22, 2004); T.F. Booth et al., "Detection of airborne severe acute respiratory syndrome (SARS) coronavirus and environmental contamination in SARS outbreak units," *Journal of Infectious Diseases* 191 (2005): 1472; Tommy R. Tong, "Airborne severe acute respiratory syndrome coronavirus and its implications," *Journal of Infectious Diseases* 191 (2005):1472.

[213] See Bob Janssen, MSc, ROH, Senior Policy Analyst: Policy & Research Division, WorkSafeBC, "A Scientific Review – the Influenza Pandemic: Airborne vs. Non-Airborne Transmission and Considerations for Respiratory Protection" (WorkSafeBC: December 2005) (Janssen, "A Scientific Review").

Dr. Annalee Yassi, who heads the provincial Occupational Health and Safety Agency,[214] told the Commission:

> When people are coughing or sneezing, it is always never purely droplet spread. It is droplet spread that is at least aerosolized in certain circumstances, and if health care workers feel more protected wearing an N95 when someone is coughing and sneezing, then why not.

Dr. Bryce said:

> We feel it is very difficult to tell at the beginning in some illnesses, in some cases, exactly what the person has and we feel that droplets can be aerosolized and there is a gradation of risks and where that stops.

As a result, said an expert at Vancouver General,

> … we always start with the highest level of precaution … we don't use droplet precautions in our hospital, never have because we've always believed that droplets have been aerosolized so we only have one category, that's airborne, and you always start with the highest level of precautions and then as the clinical situation becomes clearer, you step

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[214] See http://www.ohsah.bc.ca/321:

> The Occupational Health and Safety Agency for Healthcare in BC (OHSAH) was conceived in early 1998 in an Accord between management and union representatives. The Accord resulted in the creation of OHSAH, an agency with the goal of reducing workplace injuries and illness in healthcare workers and returning injured workers back to the job quickly and safely.
>
> OHSAH was created in response to high rates of workplace injury, illness, and time loss in the healthcare industry. At the time that OHSAH was created, workers in the healthcare industry accounted for 10.5% of all time loss claims accepted by the WCB and 11% of all days lost due to injury in BC. The injury rate in healthcare was 54% higher than the rate for all other workers in the province. It was clear that a new approach was necessary to address these concerns.
>
> OHSAH represents an innovative approach to improving workplace health and safety in the healthcare sector. The Agency is jointly governed by employers and unions. Its Board of Directors consists of four members chosen by the Health Employers Association of BC (HEABC), and one each from the Hospital Employees' Union (HEU), Health Sciences Association of British Columbia (HSA), British Columbia Nurses' Union (BCNU), and BC Government and Service Employees' Union (BCGEU).

> back on your precautions. And we have found that is the easiest for workers to understand rather to try to figure out when to wear a surgical, when to wear an N95, how close am I to the patient, do I need to put on a mask? Its just simpler for them to remember that if the patient's got respiratory symptoms, yes, put on an N95, do the appropriate precautions.

Worker safety experts question the basis for the one metre rule,[215] which was considered so impractical by some at Vancouver General that it became the subject of a joke:

> There was a sort of a little joke circulating during SARS that the tiles that we have here on the floor are approximately one metre, so that's how much distance we should keep from everybody.

Dr. Diane Roscoe, Division Head of Medical Microbiology and Infection Control, said:

> It is not an easy thing for health care workers to remember. This is a 3-metre or this is a one-metre thing, and this is not. And what am I supposed to do?

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[215] See Janssen, "A Scientific Review":

> ... one should be aware of the effects of droplet evaporation and the resultant diminution in size of ejected droplets. A 30 μm droplet dries to a 5 μm droplet within seconds under normal indoor air conditions. This means that a large droplet, as it evaporates, will not settle to the ground but become a free-floating entity. This has implications for the 3 foot rule, the basis for infection control precautionary measures, since it is commonly believed that large droplets ejected upon sneezing or coughing will follow Stoke's Law and fall to ground within a 3 foot distance from the person's face. It is evident that it is commonly believed that the 3 foot rule is a division between an unsafe and safe distance.
>
> There is no indication that the 3 foot rule takes into consideration the evaporation factor and the drift factor of airborne droplets, as discussed above. No scientific evidence is offered by WHO, DHHS-CDC, PCAH, or other medical authorities in explaining the rule. If large droplets quickly evaporate to free-floating small droplets, then the 3 foot rule applies oniy to droplets greater than about 50 – 100 μm in diameter for which there is insufficient time chance for evaporation to take effect before they fall to the ground from a height of 5 – 6 feet. Free floating small droplets readily go beyond the 3 foot radius. Therefore, if the majority of ejected droplets following a sneeze are evaporated to a size that is free-floating after only seconds in air, the 3 foot rule becomes illogical and not particularly helpful from a disease transmission perspective.

Dr. Bryce said:

> And how can the health care worker make the determination what the illness is and whether they should use droplet and airborne? I mean it is kind of expecting them to have a whole level of expertise which they shouldn't be expected to have … Even if you did determine it like poof, you know you are at this distance, you put on a mask and presto and you step back a foot and you no longer need a mask … they are moving in and out of the "danger zone" for droplets. They are in and out when they are in a room. And it is just simply easier for everyone and safer for them to put on some sort of respiratory protection when they step into the room … You've got the patients moving around and the staff moving around. It is very hard to keep the spatial separation and we just feel it is safer too.

Vancouver General's emergency department was also more attuned to the hospital's precautionary approach because, not long before SARS, it had undergone an infection control audit.

Dr. Roscoe told the Commission the audit provided an opportunity to review the hospital's precautionary approach with staff:

> We have a protocol, which had just been reviewed with the physicians and staff in the emergency room, that people with undiagnosed respiratory illness should be managed with respiratory precautions until their course or the etiology of their illness is more determined.

Dr. Bryce said Vancouver General had been doing these audits since 1995:

> We reviewed the physical layout and environment, policies and procedures. We review infection control knowledge and its application and then we do a series of visits that actually audit what we see occurring in the division … And so it occurs over several months, these audits, and we have feedback from the healthcare workers as well. We make a number of recommendations and we have time lines and people are responsible for the action plans. So just prior to SARS, a few months prior, an audit had been done ... And we did tee up some of the things that we saw about respiratory protection, particularly the expediency of triaging people who have respiratory illnesses and not to leave them sitting in the waiting room and that came out of a case of influenza that had sat in the waiting

> room during that audit period that we didn't think was the ideal thing. So I think that was very fortuitous that the others had been done prior to SARS.

A medical study said:

> Before [Mr. C's] arrival, the emergency room at [Vancouver General] also participated in an infection control audit that emphasized that barrier precautions should be applied with all acute-onset respiratory infections.[216]

Aware of the BC CDC's alerts and of Mr. C's travel history, employing Vancouver General's precautionary approach, and worried about Mr. C's condition and symptoms, emergency room physicians consulted with an infectious disease specialist and a respirologist.

Dr. Lee said the two specialists quickly:

> reviewed the situation and thought, well the situation suggests that we probably should isolate this man. He was out in the open area in cubicle 6 so we just pulled someone out of the isolation room. I still remember distinctly talking to our charge nurse … So we shuffled the patient around and put him in the isolation room shortly after I got there.

At about 7:40 p.m. (eastern time), about two and a half hours after arriving at Vancouver General and just before Mr. T arrived at the Grace, Mr. C had been isolated, examined by specialists, treated by health workers wearing full respiratory protections, and moved into a negative-pressure isolation room.

In contrast, Mr. T would not be isolated for nearly 21 hours[217].

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[216] Skowronski et al., "Coordinated response to SARS."

[217] As noted earlier, time estimates between his admission to hospital and his isolation vary. Mr. T was triaged in the emergency department at 7:00 pm, and admitted to the emergency department at 7:45 pm, on March 7th, 2003. Mr. T was moved to a medical floor, 4D, at approximately 12:00 noon on March 8th. He was transferred to the ICU at approximately 3 pm on March 8th. Dr. Finklestein, the physician who isolated Mr. T, recalled that at approximately 4:00 – 4:45 pm, he saw Mr. T and that initial steps were taken to isolate him. Public Health records report that Mr. T was moved to a negative pressure room at 6:45 pm on March 8th, 2003. It is the approximately 21 hours, between 7:45 pm on Friday, March 7th and 4:00 pm on Saturday, March 8th, when initial isolation steps were taken, that the Commission uses in this report.

Mr. C is Intubated

At about 4 a.m. on March 8, Mr. C suffered an arrest and had to be intubated, a procedure in which a tube is placed into the windpipe,

> to open the airway to administer oxygen, medication, or anesthesia.[218]

This is risky because it creates "very small droplets of moisture that may carry microorganisms," a process known as aerosolization.[219]

> The aerosolized droplets may be light enough to remain suspended in the air for short periods of time, allowing inhalation of the microorganisms.[220]

A worker safety expert said:

> When you put a tube down the throat and then in essence it almost becomes like a mucus gun … an awful lot of material comes out.

First on the scene were a medical resident and a respiratory therapist both of whom did not wear N95 respirators for the first minute or so. This was a potentially dangerous incident. Dr. Bryce said:

> They did describe him in the notes as frothing in the mouth, so obviously the potential for aerosols were also there.

However, there was no spread.

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[218] "An endotracheal intubation places a tube into the windpipe (trachea). This is done to open the airway to administer oxygen, medication, or anesthesia. It may also be done to remove blockages or to view the interior walls." Source: *Medline Plus Encyclopedia*, a service of the U.S. National Library of Medicine and the U.S. National Institutes of Health.

[219] Ministry of Health and Long-Tern Care, *Preventing Respiratory Illness* (September 2005), p. v. (*Preventing Respiratory Illness*)

[220] *Preventing Respiratory Illness*. The time between admission and isolation in a proper, negative pressure room is 23 hours.

Dr. Bryce said:

> The resident and the RT, because it was an unexpected arrest, did not have a respirator on for the first minute till assistance arrived and then they were appropriately garbed and it was a difficult intubation and they had to call the emerg doctor who intubated them but with full precautions.

Mr. C was safely intubated without anyone being infected. In contrast, a number of physicians, nurses and respiratory therapists were infected while intubating patients in Toronto.

March 17, nine days after Mr. C's intubation, Mr. M., whose story is told above, was intubated at the Scarborough Grace Hospital, but with a different result. Four health workers contracted the disease.[221] Then, on March 24, an anaesthetist, a medical resident, and a nurse at Toronto's Mount Sinai Hospital got the disease while intubating a patient ill with SARS but undiagnosed.[222]

Still later, on April 13, six health professionals were infected with SARS during a difficult intubation. That was followed May 28 by an incident in which two health workers at North York General were infected during a resuscitation. This does not speak well of Ontario's worker safety learning curve.

Remarkably, Mr. C was also intubated safely well before the dangers of intubating SARS patients had begun to be identified in Ontario or at the CDC.[223]

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[221] "In the ICU, intubation for mechanical ventilation of [Mr. M] was performed by a physician wearing a surgical mask, gown and gloves. He subsequently acquired SARS and transmitted the infection to a member of his family. Three ICU nurses who were present at the intubation and who used droplet and contact precautions had onset of early symptoms between Mar. 18 and 20. One transmitted the infection to a household member." See Varia et al., "Investigation of a nosocomial outbreak of SARS.", p. 927.

[222] D.C. Scales, K. Green, A.K. Chan, S.M. Poutanen, D. Foster, K. Nowak et al., Illness in intensive-care staff after brief exposure to severe acute respiratory syndrome, *Emerging Infectious Diseases* (October 2003). Available from http://www.cdc.gov/ncidod/EID/vol9no10/03-03-0525.htm

[223] On March 20th, nearly two weeks after Mr. C's intubation, the CDC issued the first such warning:

> Procedures that induce coughing can increase the likelihood of droplet nuclei being expelled into the air. These potentially aerosol-generating procedures include aerosolized medication treatments (e.g., albuterol), diagnostic sputum induction, bronchoscopy, airway suctioning, and endotracheal intubation. For this reason, healthcare personnel should ensure that patients have been evaluated for SARS before initiation of aerosol-generating procedures. Evaluation for SARS should be based on the most recent case definition for SARS.

No Transmission at Vancouver General

On March 12, 2003, four days after Mr. C was intubated, the WHO issued its global alert about severe cases of atypical pneumonia in Vietnam, Hong Kong and Guangdong.

One day later, Vancouver General reported the case of Mr. C to the BC CDC.

A medical study said:

> This report, together with timely conversations between Dr. Danuta Skowronski (BCCDC), Dr. Allison McGeer in Toronto and Dr. Jeannette Macey of Health Canada marked the first official recognition that SARS had come to Canada.[224]

Another medical study said:

> This call linked the separate Toronto and Vancouver cases to events in Asia and led to recognition that SARS had spread beyond that region.[225]

Unlike at the Grace, SARS did not spread to any health worker who treated Mr. C:

> Review confirmed that symptoms had not developed in any of the 148 hospital workers involved in [Mr. C's] care by 10 days after his arrival at the hospital.

Nor was SARS transmitted to any other patient at Vancouver General. Mr. C's family physician, unlike the doctor who treated Mr. T and his wife, did not develop SARS.[226]

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[224] David M. Patrick, "The race to outpace severe acute respiratory syndrome (SARS), *Canadian Medical Association Journal*, www.cmaj.ca (April 17, 2003).

[225] Skowronski et al., "Coordinated responses to SARS."

[226] "The family physician had no detectable neutralizing antibody to SARS-CoV when tested at day 496." Skowronski et al., Coordinated responses to SARS."

Mrs. C did not require any hospitalization. One B.C. official told the SARS Commission:

> The wife of [Mr. C] was also infected but did not meet the clinical case definition for probable SARS as defined by Health Canada at the time. She had mild symptoms only but … she had serologically confirmed SARS-CoV infection acquired simultaneously with her husband at the Metropole Hotel in Hong Kong as part of the initial cluster …
>
> Of course, as with all infections, SARS included a spectrum of illness. Children in particular tended to have milder symptoms. [The index patient] in B.C. had illness at the extremely severe end of the spectrum while his wife … was at the opposite end of the spectrum with very mild illness.

Besides Mr. T, four members of his family – his sister, his brother, his wife and his infant child – caught SARS.

Significantly, and again in contrast to Toronto, neither Mr. C nor Mrs. C had any other household contacts.

Dr. Patrick of the BC CDC said there was an element of luck in what occurred at Vancouver General.

> Toronto's first importation represented somebody who went home, spread it at home, before the health care system was approached. That was a harder thing to recognize, there had already been spread before the health care system was in a position to intervene. Whereas in B.C., our first individual did not really go home for any length of time, did not have a huge extended family, presented at hospital and was recognized … very quickly by an emergency physician.

Dr. Patrick said these kinds of factors are "strictly chance," but he said other factors that were "a result of structural or operational decisions" also contributed to ensuring there was no outbreak in Vancouver.

These included Vancouver General's robust worker safety and patient safety culture, which allowed it to respond to an emerging threat before it was recognized.

Dr. Roscoe told the Commission:

> And I often say that we practice infection control with a vengeance. And then I think, it sounds silly, but I think it says, it kind of says a lot and it is that you start at the worst-case scenario in terms of what the risks are for spread and then back off as you get more information, either because the patient's clinical course is consistent with something else, or is responding to treatment, or you have some diagnostic test that can help you make those decisions. But it is the philosophy that you think of the worst-case scenario and act on that, if you can practically speaking. All of this has to be taken into, what the patient needs for their medical care because you can never deny that in the first instance and what facilities, manpower etc. you have to be able to implement this. But then it also speaks to is being up front, with the infection control team being recognizable, available, out on the wards, everybody knows who to call and they are very proactive and what we are doing we don't just sort of wait for things to happen or for requests to come, sort of a very proactive approach to anticipating what might happen, what might be the needs…

Many Ontario nurses and their representatives told the Commission they had trouble being heard during SARS, and getting their concerns taken seriously.

An integral component of Vancouver General's safety culture is listening to nurses.

Dr Bryce said:

> And we get the feedback from the workers… I mean you know we are not working in isolation here. You have to respect the opinions of the health care workers. And they have to have confidence in the system and in what you are doing for them. If they don't have confidence, then you won't have people coming to work and you'll have people doing whatever they feel is best because they respect you because you are not listening to them.

Dr. Roscoe said listening to health workers improves compliance and strengthens safety in the workplace:

> And in the end, infection control isn't done by the infection control unit, it is done by all the healthcare workers in the front line. That is who is really doing it. So you have to be there to educate them and to get them to buy into this and certainly SARS helped everybody buy into the importance of infection control, but it doesn't just happen and it doesn't happen, it is not something you do once and that's it. It has to be done over and over and over because you have people who are busy and who forget. They may have not have time, you have new people and that is never going to stop. So that has to be an ongoing thing.

Different Approaches to Workplace Safety

The contrast between the Ontario and B.C. SARS experiences was not limited to how their respective index cases were handled. It extended to the defining characteristic of the outbreak in Ontario, the fact that it mostly affected workplaces. Of the 247 probable cases in Ontario 190, or 77 per cent, were either health care workers, people who sought care at health care facilities, or visitors.[227] In B.C., only one health worker caught the disease, and SARS was not transmitted to a single patient or visitor.

With such vastly different outcomes, it is not surprising that the roles and approaches of the Ontario and B.C. workplace watchdogs were also dissimilar. When SARS began, B.C.'s workplace regulator, the Workers' Compensation Board (WCB)[228], more commonly known as WorkSafeBC, quickly got involved. A senior policy analyst with the WCB, said:

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227. Dr. Colin D'Cunha, presentation to the SARS Commission, SARS Commission Public Hearings, September 29, 2003.

228. Its mandate is to:

- Promote the prevention of workplace injury, illness and disease
- Rehabilitate those who are injured and provide timely return to work
- Provide fair compensation to replace workers' loss of wages while recovering from injuries
- Ensure sound financial management for a viable workers' compensation system

See: http://www.worksafebc.com/default.asp

> So what happened in the early March, 2003, we heard about this horrific bug, that nobody knew what it was, and we acted right away.

Early in the outbreak, the WCB itself issued detailed guidelines on how to protect health workers in a manner consistent with provincial law, and undertook proactive inspections of hospitals to make sure this was being done.

In Ontario, the Ministry of Labour was largely sidelined during the outbreak. It was not given a primary role at the Provincial Operations Centre, and it was not seen as having a central responsibility in protecting health workers. In contrast, the WCB was widely recognized as having clear authority and jurisdiction over workplace safety issues.

A senior work safety expert who has also worked in Ontario told the Commission:

> Basically because our Workers' Compensation Board … is very prominent, and I think, much more so than in Ontario, I used to live in Ontario and practice there and when the WCB here says this is how it shall be, people do not question it quite as much.

A British Columbia senior work safety expert told the Commission:

> They make a decision and get on with it, so I think that once the WCB made it clear that they require certain certification, they were clearly the deciding agency, because they were the ones who could write fines if things were not done the way they thought they should be.

The situation in Ontario could not have been more different.

Despite being the ministry in charge of workplace safety, the Ministry of Labour was largely on the sidelines during SARS. Many in the Ministry were frustrated that more could not have been done during SARS. But there was a systemic failure to see the importance of ensuring that the Ministry, unions and worker safety experts were all at the table as integral partners in the fight against SARS.

The Ministry of Health was the lead ministry during SARS, and Labour had a very low profile during the outbreak. Labour had a secondary role at the Provincial Operations Centre (POC), which directed the response to the outbreak and issued directives.

As an indication of its low profile, senior Ministry of Labour staff even had trouble getting copies of directives. One official said he often had to get copies of directives from contacts at health worker unions or at other agencies.

He told the Commission:

> What were we supposed to do? We don't have any information. We can't get any information from the Ministry of Health. We are not getting any directives. How do we get the directives?

In a similar example of the Ministry of Labour's secondary status, the Ministry of Health set up a restricted access web site containing information for ministry staff, public health officials and other key players in the fight to contain SARS. Labour was not made aware of this site until "late April or May," a senior official told the SARS Commission.

SARS also found the Ontario Ministry of Labour was poorly resourced and ill prepared for a public health crisis. Its contingent of physicians had been decimated. In 1992, the Ministry had 19 physicians. By 1996, they were down to three and a half. The ministry no longer had a laboratory or air sampling technicians, and its occupational health and safety nurses had been laid off in the 1990s. Most inspectors had little or no training on infectious disease issues. All inspectors interviewed by the Commission said they had never been involved in an infectious-disease-related inspection of a health care facility before SARS. As a senior ministry official told the Commission, the ministry had little internal expertise in infection control:

> The ministry did not have until April of this year [2006], people with specific public health experience working, or people with specific communicable disease experience … So, at that time, we wouldn't have had people … [with] specific communicable disease or infectious disease experience.

The WCB in British Columbia was far more ready to tackle SARS because it had a strong internal cadre of experts and had long regarded health care as a sector that required oversight.

A senior policy analyst with the WCB said:

> We'd been involved, myself included, quite a bit in inspections of hospitals. Since, actually the day I started with the Board, in 1979-1980, and in many ways we had more focus inspections on hospitals because we had a lot of concerns about ethylene oxide exposures, anesthetic gases. In fact, we even went in during fully functioning operations and did sampling and of course, checked out all the equipment to do with surgery and pharmacy and with the boiler plan itself. And then we got quite heavily involved in the late 80's early 90's with ergonomic issues. That was really our prime focus. That was driven by a high injury rate related to soft tissue injuries (back injuries, shoulder injuries) and there is quite a bit of that. So, that has been our main emphasis. But we certainly did, not only did we go into the field of infectious control at that time ... We were certainly aware of what was going on and some of us had specific interests in infectious diseases and developed that over time.

Timely, Proactive Inspections

A major difference between the SARS responses of the British Columbia WCB and the Ontario Ministry of Labour was their approach to proactive inspections. WCB inspectors began making proactive inspections on April 2, 2003, more than two months before the Ministry of Labour took similar action at SARS hospitals in Ontario.[229] As noted in Table 1, 11 of the WCB's 19 proactive inspections took place in April 2003.

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[229] Ministry of Labour, submission to the SARS Commission, SARS Commission Public Hearings, November, 17, 2003, p. 16:

> On June 12, the Ministry initiated a series of consultations at other health care facilities that were identified as having a risk of SARS transmission to their workers. The health care facilities were categorized based on potential SARS exposure. The facilities were listed as Category 0 to 3, with Category 0 being hospitals with no known cases of SARS. During these consultations the Ministry reviewed infection control precautions, use of respirators and respirator fit testing and the function of the internal responsibility system.

Table 1 – Proactive Inspections in B.C.[230]

	Date	Healthcare Institution
1.	April 2, 2003	Facility F
2.	April 3, 2003	Facility F
3.	April 4, 2003	Facility H
4.	April 7, 2003	Facility I
5.	April 17, 2003	Facility G
6.	April 17, 2003	Facility B
7.	April 24, 2003	Facility A
8.	April 25, 2003	Facility C
9.	April 28, 2003	Facility C
10.	April 29, 2003	Facility B
11.	April 29, 2003	Facility D
12.	May 5, 2003	Facility A
13.	May 5, 2003	Facility C
14.	May 7, 2003	Facility C
15.	May 7, 2003	Facility E
16.	May 8, 2003	Facility A
17.	May 27, 2003	Facility A
18.	June 22, 2003	Facility A
19.	June 26, 2003	Facility G

April was when SARS protective measures were first being rolled out, amid mounting reports of large numbers of health workers contracting the disease in many jurisdictions. Conducting numerous inspections in April allowed the British Columbia WCB to make sure at the start that SARS safety measures were implemented in accordance with provincial laws and regulations.

In B.C. the WCB was able to conduct proactive inspections at the beginning when they would have maximum impact on the course of the effort to contain SARS.

In Ontario, the Ministry of Labour could not and did not do so. The structure of Ontario's SARS response resulted in the Ministry of Labour deferring to the Ministry of Health and the health system to ensure that health workers were protected.

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[230] Workers' Compensation Board of B.C.

A ministry official told the SARS Commission:

> The resources and … in terms of infectious disease control don't reside in the Ministry of Labour … we don't have what the health care system has. We don't have what the Public Health officials have. So, I mean, it doesn't surprise me that we would say, that's fine. Access the Ministry of Health and they've got access to international experts and go to it.

It was not until the middle of May that the Ministry of Labour began to realize that workers were not being effectively protected.

A senior labour ministry official told the Commission:

> Certainly in mid-May it became apparent that things weren't going right in terms of following directives … and the large number of complaints that we had been receiving from health care workers …

It was not until about one month later, on June 12, 2003, that the ministry began a series of proactive inspections of SARS hospitals.[231]

A senior labour ministry official told the Commission:

> Once we became aware that the directives weren't being enforced with the ongoing problems and when we were probably aware of what the expectations were and understood what the situation was, we decided to meet off site.

Needless to say, by June 12, 2003, all health workers who caught SARS had already contracted the disease. The damage had been done to infected nurses, physicians, respiratory therapists and other health workers and their families.

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[231] Ministry of Labour, submission to the SARS Commission, SARS Commission Public Hearings, November 17, 2003, p. 16:

> On June 12, the Ministry initiated a series of consultations at other health care facilities that were identified as having a risk of SARS transmission to their workers. The health care facilities were categorized based on potential SARS exposure. The facilities were listed as Category 0 to 3, with Category 0 being hospitals with no known cases of SARS. During these consultations the Ministry reviewed infection control precautions, use of respirators and respirator fit testing and the function of the internal responsibility system.

Unlike in Ontario, the British Columbia WCB did not have to rely on anyone else to make sure workers were protected in the workplace, whether it was Public Health, the hospitals, regional health authorities, or the provincial Ministry of Health. And it did not have to wait until there was overwhelming evidence, including an enormous number of complaints, before acting.

The WCB acted proactively, aware that this was the most prudent course of action to take in the face of a mysterious new disease. As one occupational health and safety expert told the Commission:

> We all know that something that's proactive is much better than a reactive process.

In Ontario, the Ministry of Labour told the Commission that part of the delay in sending inspectors to SARS facilities was concern over their safety. One senior ministry official said:

> It wasn't clear in April whether it was safe for the inspectors to go in.

The WCB had the necessary internal expertise to develop its own guidelines for protecting its inspectors.

A senior WCB policy analyst said:

Answer:	We also put out an instruction to workers to inspection officers when they go onsite, for their own protection. So we are basically telling that there are certain situations you are not to go into unless you are properly protected and you haven't been instructed in this so keep out of it. And that's what the instructions are to the officers.
Question:	So, they were told not to go to a work site…was it with SARS, or?
Answer:	Well, not to enter, not to enter but to stay outside and make sure that there is control measures in place.

Question:	Are you staying away from the whole facility or just the area where . . . ?
Answer:	Well, the area where let's just say, the triage area and the ambulatory area where they would treat or …they would bring in the SARS or potential SARS patients.
Question:	Okay, but they could go to the offices of the managers, for example?
Answer:	Oh yeah, right.

Detailed Guidelines Are Issued by WCB

Where the WCB's response also differed from the Ministry of Labour's was in preparing its own guidelines.

On March 31, 2003, the WCB issued a guide containing its requirements for protecting workers from SARS. The guide also made hospitals were aware of their responsibilities under provincial law, and ensured workers knew under what circumstances they could refuse unsafe work.

The WCB policy analyst said:

> This was published within three weeks after we learned about this. So before it even got to be a problem in North America.

The guide was prepared after consultations with infection control and occupational hygiene experts.

The analyst said:

> Well, I was one of those [who helped to prepare the report] and we have our V.P. and then we have legal counsel and then we have several officers that have an area of expertise, infectious control, to go into hospitals and so there were several officers who were brought in as experts and we called them, "SME's", Subject Matter Experts. Brought in and talked about this and made the basis on their recommendation and that particular group drafted this particular document.

The guide was based on the principles of occupational hygiene,[232] which are founded on a precautionary approach and recommend that,

> … all available options for controlling the hazard should be put into place and that when these controls are not possible or not sufficient to control the risk, personal protective equipment such as respirators should be implemented. The hierarchy of controls is as follows:
>
> 1. Engineering controls
>
> 2. Administrative controls
>
> 3. Work practices
>
> 4. Personal protective equipment.
>
> These controls are meant to address hazards through control at the source of a hazard, along the path between the worker and the hazard and lastly, at the worker.[233]

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[232] Occupational hygiene, which is often called industrial hygiene in the U.S., is defined as follows: "The science and art of anticipating, recognizing, evaluating, and controlling chemical, physical, biological, ergonomic hazards that are in or originate from the workplace." Source: Salvatore R. DiNardi and William E. Luttrell, *Glossary of Occupational Hygiene Terms* (Fairfax, Va.: American Industrial Hygiene Association 2000), p. 106.

[233] Controls that are implemented at the source should be put into place first. These include using engineering controls such as enclosing the hazard or using local exhaust ventilation. An isolation room with negative pressure ventilation is an example of an engineering control aimed at the source of the hazard.

Controls that are implemented along the path should be put in place next. These include general exhaust ventilation or the use of shielding or barriers. Administrative control and workplace practice controls are also critical. These controls include such program components as processes to ensure early recognition and appropriate placement of patients who are infectious, surveillance for detection of outbreaks, adequate cleaning and disinfection of patient care equipment and the environment and education programs for health care workers about identifying and managing risk. If, after implementing controls at the source and along the path, the risk of overexposure to the worker is still present, then controls at the worker can be put in place. These include the use of personal protective equipment such as respirators and eye protection. The essential point from the hierarchy of controls is that employers should not rely exclusively on personal protective equipment (PPE) to protect workers. All other means possible should be used to protect workers and PPE used only when other controls have not eliminated or reduced the hazard significantly.

In B.C., the WCB's guide and its overall approach to SARS reflected the occupational hygiene principle that protecting workers means more than just providing them with an N95 respirator.[234] They have to be trained in its use. They have to be fit-tested. They have to be supervised. And the use of the respirator must be integrated into the hierarchy of controls in a manner consistent with provincial laws, regulations and occupational hygiene best practices.

B.C. law requires,

> … the employer to implement an exposure control plan where a worker has or may have occupational exposure to a bloodborne pathogen or other biohazardous material as specified by the Workers' Compensation Board. The Board has determined that the micro-organism causing SARS constitutes 'a bioharzardous material.'[235]

The WCB guide on SARS said:

> An employer must implement an exposure control plan where it can be *reasonably* anticipated that a worker will have occupational exposure to SARS. Such workers would include health care personnel who are providing care for, or are exposed to, patients with SARS. The employer must identify the workers at risk, develop safe work procedures, and provide adequate education and training. Engineering controls, such as isolation rooms, should form part of the exposure control plan.[236]

Health Care Health and Safety Association of Ontario, *A Guideline for the Development and Implementation of a Respiratory Protection Program for the Prevention of Occupational Infections in Health and Community Care Workplaces – Final Draft*, (Toronto: Health Care Health and Safety Association of Ontario, July 23, 2003), p. 11.

[234] Using highly efficient filtering materials, N95 respirators are one of the nine types of disposable particulate respirators that are independently tested and certified by the National Institute for Occupational Safety and Health in the United States, which is part of the Centers for Disease Control. "The N indicates that the respirator provides no protection against oils and the 95 indicates that it removes at least 95% of airborne particles during worst case testing using a most -penetrating-sized particle." Source: A. Yassi et al., "Research gaps in protecting healthcare workers from SARS," *Journal of Occupational and Environmental Medicine* 47 (2005): 41-50.

[235] WCB Occupational Disease Prevention Services, "General Guide on Applying the OHS Regulation to Severe Acute Respiratory Syndrome (SARS)" (March 31, 2003), p. 2 (WCB Guide).

[236] WCB Guide, p. 2.

The analyst said the guide was prepared to avoid confusion at hospitals and ensure consistency in their worker safety measures:

> One of the problems with infection control is that there are guidelines from the infection control community. There is no regulation that deals with infectious control specifically, as I understand it. Unless the Canada Health Act has some guidelines. So it is up to the individual hospital whether they adopt in whole or in part. That's one of things we wanted to make sure, that each hospital was on the same page. That they understood what an Exposure Control Plan means. That means recognizing the hazard, evaluating the hazard and putting in place effective control measures. That would include personal protective equipment and would include putting things on properly and taking things off properly. That is still one of the things that we found problematic is what we call, "donning and doffing" and the problem of self-inoculation or self-infection. You know if you take things off in the wrong order you are going to contaminate yourself and then you go wipe your nose or rub your eyes with your hands and before you know it you've got yourself an infection. So, that's the basis of it.

In addition, the WCB issued a question-and-answer document that provided greater detail on the information and requirements outlined in the guide.

The WCB analyst said:

> Control measures, what that means? So, we talked about administrative controls, engineering controls and then of course, respiratory protection…

Ontario directives issued at this time provide a stark contrast to the WCB guide. On worker safety issues, Ontario directives were often confusing and incomplete.

An Ontario directive issued a few days after the WCB's guide, on April 3, 2003, is a case in point. It says the following about worker protective measures:

> 12. All staff and visitors entering the facility must use frequent hand washing/hygiene. However the routine use of gowns, gloves, and masks is not required provided the patient is not in respiratory isolation.

13. All HCWs and staff entering the room of a SARS patient in ANY location:

    - Use frequent hand washing/hand hygiene.
    - Use an N95 mask
    - Use an isolation gown
    - Use gloves
    - Use protective eyewear or face shield

14. All visitors to SARS patients must also use the precautions listed in #13.

15. For direct contact with any patient in Intensive/Critical Care Units or Emergency Departments HCWs must:

    - Use frequent hand washing/hand hygiene.
    - Use an N95 mask
    - Use an isolation gown
    - Use gloves
    - Use protective eyewear or face shield

Unlike in B.C., this Ontario directive, and many others that followed, did not have sufficient worker safety input. It focused on just one element of worker safety, personal protective equipment. There was no mention that worker safety protections must be integrated within a hierarchy of controls. There was no mention that personal protective equipment is considered by worker safety experts to be the last line of defence for a health worker and is not effective without appropriate fitting and training. There was no mention that worker safety protective measures must comply with provincial law. And there was no reference to the relevant provincial laws and regulations themselves.

This does not reflect badly on those who prepared them. The men and women who prepared the directives are to be praised for their dedication and hard work. Rather, the worker safety inadequacies in the Ontario directives reflect systemic problems, including a failure to give Labour an appropriate level of authority and jurisdiction in their preparation that is commensurate with its role as the Ministry in charge of protecting workers.

Work Refusal Regulations Clarified

A major area of concern for nurses in Ontario during SARS was over their already limited right to refuse unsafe work. Unlike most workers in Ontario, who can refuse unsafe work if the institutional protections fail to sufficiently protect them,[237] health workers and other first-responders, including police and firefighters, have only a limited refusal right.[238]

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[237] This right is enshrined in Section 43(3) of the *Occupational Health and Safety Act*, which states:

> 43. (3) A worker may refuse to work or do particular work where he or she has reason to believe that,
>
> (a) any equipment, machine, device or thing the worker is to use or operate is likely to endanger himself, herself or another worker;
>
> (b) the physical condition of the workplace or the part thereof in which he or she works or is to work is likely to endanger himself or herself; or
>
> (c) any equipment, machine, device or thing he or she is to use or operate or the physical condition of the workplace or the part thereof in which he or she works or is to work is in contravention of this Act or the regulations and such contravention is likely to endanger himself, herself or another worker. R.S.O. 1990, c. O.1, s. 43 (3).

[238] Sections 43 (1) and (2) of the *Act* state:

> 43. (1) This section does not apply to a worker described in subsection (2),
>
> (a) when a circumstance described in clause (3) (a), (b) or (c) is inherent in the worker's work or is a normal condition of the worker's employment; or
>
> (b) when the worker's refusal to work would directly endanger the life, health or safety of another person. R.S.O. 1990, c. O.1, s. 43 (1).
>
> (2) The worker referred to in subsection (1) is,
>
> (a) a person employed in, or a member of, a police force to which the *Police Services Act* applies;
>
> (b) a firefighter as defined in subsection 1 (1) of the *Fire Protection and Prevention Act, 1997*;
>
> (c) a person employed in the operation of a correctional institution or facility, a training school or centre, a place of secure custody designated under section 24.1 of the *Young Offenders Act* (Canada) or a place of temporary detention designated under subsection 7 (1) of that Act or a similar institution, facility, school or home;

Work refusals are also problematic for regulated workers like nurses who could be disciplined by the College of Nurses of Ontario.

On April 1, 2003, Ontario nurses' representatives asked the Ministry of Labour to clarify health workers' limited right to refuse unsafe work.

In their joint submission to the Commission, the Ontario Nurses' Association (ONA) and the Ontario Public Service Employees Union (OPSEU) said the response from the ministry dated April 15, 2003 was insufficient:

> Right to refuse unsafe work under the *OHSA* was an issue OPSEU and ONA members asked to have clarified. Both unions anticipated and received questions from their members about work refusals. OPSEU published a section on Right to Refuse in almost all of its regular Hazard Alerts. The steps of a work refusal were set out, as were the limitations faced by HCWs under the *OHSA*. ONA had asked the MOL for its position on work refusals for HCWs in the April 1st correspondence referred to above.
>
> The MOL's response of April 15/03 was not detailed enough to give adequate direction to HCWs. ONA was concerned that a worker who did not follow precise steps could be disciplined by the College of Nurses of Ontario. Therefore about one week later ONA completed its own Right to Refuse document and posted it on its website.[239]

(d) a person employed in the operation of,

(i) a hospital, sanatorium, nursing home, home for the aged, psychiatric institution, mental health centre or rehabilitation facility,

(ii) a residential group home or other facility for persons with behavioural or emotional problems or a physical, mental or developmental disability,

(iii) an ambulance service or a first aid clinic or station,

(iv) a laboratory operated by the Crown or licensed under the *Laboratory and Specimen Collection Centre Licensing Act*, or

(v) a laundry, food service, power plant or technical service or facility used in conjunction with an institution, facility or service described in subclause (i) to (iv). R.S.O. 1990, c. O.1, s. 43 (2); 1997, c. 4, s. 84; 2001, c. 13, s. 22.

[239] ONA/OPSEU, submission to the SARS Commission, SARS Commission Public Hearings, November 17, 2003, p. 30.

In B.C., however, the WCB said a worker had clear direction on the circumstances under which he or she could refuse unsafe work.

The B.C. guide said:

> A worker has the right to refuse any work which that person has "reasonable cause to believe … would create an undue hazard to the health and safety of any person" … If an employer requires a worker to work with a known or suspected case of SARS, without providing the appropriate personal protective equipment (PPE) and safe work procedures, then this would clearly constitute a case where there is undue risk to that worker's health.[240]

Only Certified Respirators Allowed

As noted elsewhere in this report, there was confusion at some Ontario hospitals over what type of respirator to use.

Most Ontario directives allowed the use of N95 respirators "or equivalent." The word "equivalent" was open to interpretation. Many in the health care system, including Health Canada and experts at some major Toronto teaching hospitals, interpreted "equivalent" to mean masks with the same manufacturer's specifications as an N95 but which had not been independently tested and certified. This led to situations where health workers were offered both respirators that were independently tested and certified and some that were not.

The Ministry of Labour said it accepted the term "equivalent" in directives because this allowed the use of higher rated NIOSH-approved respirators like the N99 or N100.[241]

One ministry official told the Commission:

> Now, if somebody uses an N99 or an N100, they are equivalent and would provide even higher protection.

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[240] WCB Guide, p. 2.

[241] The minimum efficiency of each tested filter is to be greater than or equal to 99.97% for N100 filters and 99% for N99 filters.

The problem was that, like much else during SARS, the Ministry of Labour's position on the word "equivalent" was not appropriately communicated to employers and it was not followed in some workplaces. As will be seen later in this report, some health workers involved in the Sunnybrook intubation in mid-April 2003 and who got SARS wore non-certified masks.[242]

B.C. did not have this problem. Like the Ministry of Labour, it only accepted independently tested and certified respirators. The difference is that the WCB was able to convey this clearly to employers. Experts in Vancouver interviewed by the Commission said the issue of using non-certified respirators never arose in B.C.

The WCB said, in its SARS questions-and-answer document:

> Currently, the board has accepted only NIOSH-approved/certified respirators … The board will consider non-NIOSH approved equipment with the following proviso. To be considered as an approved or certified devices, the respirator in question must have been tested in accordance with testing criteria as prescribed by NIOSH or other agency using methods and criteria deemed acceptable by the board. The manufacturer must be able to provide test information on the respirator being marked for use by workers, otherwise one cannot establish that the device does in fact meet NIOSH or equivalent standards.

Impact of the WCB's Proactive Approach

While the failure to conduct proactive visits in Ontario until June 2003 was a missed opportunity to ensure workplace compliance, we will never know whether this would have made a difference. It is pure speculation to question whether such proactive measures might have reduced the toll of SARS.

Nor will it ever be known whether the toll of SARS among Ontario nurses, physicians and other health workers would have been reduced if the Ministry of Labour had been better prepared and better resourced and had not been sidelined by systemic problems. Conversely, it will never be known whether the greater preparedness of the British Columbia WCB and its more aggressive approach to worker safety ensured the much lower impact of SARS in the workplaces in B.C.

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[242] "Cluster of severe acute respiratory syndrome cases among protected health-care workers Toronto, Canada, April 2003," *Morbidity and Mortality Weekly Report* 52 (May 16, 2003): 433-6.

What can be said is that the WCB was better prepared before SARS to address a public health emergency, and was better able to respond to the SARS outbreak.

What also can be said is that since SARS, the Ontario Ministry of Labour has made a concerted effort to learn from its experience, and has adopted many of the kinds of approaches employed by the WCB during SARS. It has made a significant effort to address its resource and expertise weaknesses, including hiring 200 more inspectors and developing sufficient in-house health care expertise. And it has adopted a more assertive, proactive approach to workplace safety in general, and to the health sector in particular. A case in point was a series of proactive inspections of health facilities in late 2003 and early 2004. As the Ministry of Labour said in a submission to the Commission:

> Inspectors issued orders for a variety of contraventions related to infection control including the notifications of occupational illness, Workplace Hazardous Information System (WHIMS), operation of joint health and safety committees, training, ventilation, storage and handling of materials, risk assessment of needlestick/sharp injuries and the use of safety engineered medical devices, handling of waste materials, appropriate use of refrigeration units and the use of personal protective equipment.
>
> All 192 acute care facilities in Ontario were visited and 2,172 orders were issued.
>
> On average there were approximately 11 orders per facility. Of the 11 orders per facility many related to infection control programs and consultation with the joint heath and safety committee.[243]

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[243] Ontario Ministry of Labour, submission to the SARS Commission, SARS Commission Public Hearing, Appendix C, P.2 March 15, 2006.

A Regional Health Authority and SARS

The only transmission to a health worker in B.C. was at the Royal Columbian Hospital in New Westminster.[244] Under B.C.'s highly centralized health system, Royal Columbian is overseen by Fraser Health,[245] one of the province's five regional health authorities.[246]

How Fraser Health protected its workers from SARS and how it and the WCB reacted to the infection of a nurse provides yet another contrast to the Ontario SARS experience.

In Ontario during SARS, the expertise and contributions of occupational hygienists and the principles of their discipline were not well understood or recognized.

As a health association said in a submission to the SARS Commission:

> There appears to be a lack of understanding in the public health/health care system of the professional expertise available through occupational health and safety personnel. Had the health care sector been aware of and more fully utilized occupational hygiene professionals trained in aerosol science, engineering controls and the proper selection and use of personal protective measures, a significantly improved level of protection for health care workers could have been attained.

At Fraser Health, worker safety experts were seen as integral to the SARS response. Wanting to ensure their workers were fully protected in a manner consistent with the WCB guide and provincial laws and regulations, Fraser Health officials consulted their in-house occupational hygienists shortly after the WCB guide was issued on March 31, 2003.

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[244] The City of New Westminster is about 20 km east of Vancouver.

[245] Headquartered in Surrey, B.C., Fraser Health oversees the health region east of Vancouver, supervises 12 acute care hospitals with about 2,000 acute care beds, employs about 21,000 people and has a budget of $1.8 billion. It serves about 1.5 million people.

[246] The B.C. health system is highly centralized and is managed by five health authorities that govern, plan and coordinate services in geographic regions. A sixth authority coordinates and provides provincial programs and specialized services, such as cardiac care and transplants. Introduced in December 2001, this structure merged the previous 52 health authorities into a more streamlined system. See: http://www.healthservices.gov.bc.ca/socsec/about.html

A Fraser Health occupational hygienist told the Commission:

> The question came to our director, we are using these N95s, is there any special thing that we need to do? So that was passed along to myself, and I said yes, if we are using N95s we are going to be into doing fit testing or even holding education sessions and do that now. That was communicated to all of our Safety Consultants. The issue that we had at that point in time was that the supplies of N95s within our Health Authority were extremely low because of the world wide demand for them, we had a lot of difficulty in having fit test staff when you just do not have enough N95s and in some of our areas, for example our emergency department in Royal Columbian Hospital, we have got 130, 140 staff that can work in that department.

The unique expertise of worker safety specialists was especially on display when they addressed fit-testing[247] problems and shortages of N95 respirators.

Unlike in Ontario, where the logistics of fit-testing and the lack of in-house fit-testing expertise at many hospitals caused a great deal of concern, worker safety specialists at Fraser Health knew what needed to be done under difficult circumstances.

A Fraser Health occupational hygienist told the Commission:

> We had enough N95s just to cover the staff that were going into the patients isolation room, within our emergency departments we did not have enough to provide for all the staff for fit testing and everything, so at that point in time what we did is we provided them with education on how to put it on and how to take it off properly, we went through the fit check, we went through all that information, we visually inspected as best we could whether they were getting a good seal but because we did not have enough N95s we could not fit test everybody at that point. So we were in communications with our purchasing department and trying to get any N95s that were available so that we could obviously proceed to a higher level.

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[247] Required by Ontario and B.C. law, fit-testing ensures that workers select a respirator that best fits their facial features. As part of fit-testing, users are also taught how to achieve a tight mask-to-face seal and how put on and take off the respirator safely.

The transmission to the nurse at Royal Columbian involved a SARS patient who had extensive contact in Hong Kong with two family members, both of whom died of SARS. The patient was admitted to Royal Columbian on March 26.[248]

A nurse who had contact with this patient on March 29 and March 30 helped the patient to use:

> . . . the toilet, which was flushed with lid raised in her presence. She followed guidelines in place at the time, but these did not include eye protection. Symptoms developed in the nurse on April 4.[249]

Four or five days later, the nurse began showing the symptoms of SARS: muscle pain, cough, shortness of breath and diarrhea. On April 15, a fever developed and she entered another Vancouver area hospital, St. Paul's, where she was admitted directly to a negative-pressure isolation room.

Officials at Royal Columbian and Fraser acted decisively to prevent further transmission to workers and patients. Staff who may have been exposed were quarantined. Patients on the ward were isolated. And, recognizing the threat of a possible nosocomial outbreak, Fraser Health mobilized its occupational health and safety, and infection control resources.

One Fraser Health occupational hygienist told the Commission:

> Question: So when you had a hot zone, you devoted a lot of your occupational health resources to it?
>
> Answer: Yes.
>
> Question: And your infection control resources?

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[248] This patient " … had prolonged contact abroad with 2 family members in Hong Kong, who subsequently died from SARS. Although asymptomatic, she went to her physician … on March 26 because she was concerned about her exposure. Chest radiograph showed bilateral consolidation, and she was directed, masked, to hospital B, where she was admitted directly to a [negative pressure isolation room]. She was transferred to the ICU of hospital C for assisted ventilation. Neither of her 2 household contacts had detectable SARS-CoV antibody at day 215." Source: Skowronski et al., "Coordinated response to SARS."

[249] Skowronski et al., "Coordinated response to SARS."

Answer: And our infection control resources. We had an emergency operations centre set up at Royal Columbian, one at Surrey [Memorial Hospital], because that was where we also we still had a [SARS patient] in ICU, and I think we had one set up at MSA Hospital [in Abbotsford, BC] because there were some suspect cases.

Fraser Health dedicated a team to ensure there was no further nosocomial transmission at Royal Columbian.

Recalled one Fraser Health occupational hygienist who had gone out of town:

> So I came back during that Easter weekend and our department was basically on site 24 hours a day for a whole other week and a half after that, until it became clear … that there was no [other] transmission …

Nurses, physicians and other staff on affected wards at Royal Columbian were given intensive assistance to make sure they were protected.

An occupational hygienist at Fraser Health told the Commission:

> We had hands-on training and supervision and provided support to them. We made sure they were taken care of. Went over with them training them … We got to a high level of involvement very quickly. That definitely assisted in preventing a nosocomial outbreak.

To make sure there was no further transmission, joint teams of worker safety and infection control experts were on hand on the affected wards at the Royal Columbian Hospital for each health worker shift change. They made sure health workers knew proper procedures, were fit-tested and had the latest information on SARS. They were also on hand to get feedback from staff and address their safety concerns. And they made sure that all support staff, including x-ray technicians, cleaning staff and catering staff, were properly protected.

One Fraser Health occupational hygienist told the Commission:

> We were there for all the shift changes, any time a staff member would come in, we were there. Infection Control was there. We gave them a full update on everything they needed to do. We would make sure that they were fit tested. And then any staff that would potentially go into that

> room we were fit testing as well. So any medical imaging staff or laboratory staff who needed to draw blood or the various support services that might need to go into that room to provide care for the patient. So there was a huge amount of fit testing at that point.

The situation in Toronto was very different. As one hospital with a strong occupational health and safety program said in its submission to the Commission, many other hospitals lacked qualified worker safety specialists:

> … our facility has the advantage of an established occupational health and safety program, which focuses on recognizing and controlling the broad spectrum of hazards encountered by staff in health care settings, not just biological hazards. Many health care organizations do not have appropriately qualified occupational health and safety staff and thus have to rely on infection control practitioners, where available. This leads to significant gaps in the protection of staff, as infection control practitioners are qualified to address the control of communicable diseases within a patient care population, rather than applied biosafety for the protection of staff. Infection control practitioners do not receive masters' level training in aerosol dynamics, respirator performance, engineering controls, ventilation etc., and are not trained to conduct risk assessments relative to the range of biological hazards for which staff protective measures, such as the use of biosafety cabinets, need to be established.

Unlike in Ontario, where as noted above the Ministry of Labour was largely sidelined, the WCB made five inspections at Royal Columbian to make sure workers were protected.

An occupational hygienist at Fraser Health said:

> We did have WCB coming onto our site around April 15, which I think was just prior to the Easter weekend … They were coming in to see what we were doing. So they did an inspection with us. They talked to staff to see if they were fit tested, if they received any training or not.

During the two largest SARS outbreaks at Ontario hospitals, at Scarborough Grace in March and at North York General in May, the Ministry of Labour deferred to public health officials, and did not get directly involved onsite to make sure workers were protected.

At the Scarborough Grace Hospital, Labour received complaints from nurses' representatives by telephone in late March 2003 but did not act beyond conferring, again by telephone, with the hospital, union officials and public health officials.[250]

The Ministry of Labour told the Commission:

> On March 24, 2003, the Ministry received the first complaint relating to SARS from a worker representative regarding management's response to the hospitalization of health care workers at Scarborough Hospital – Grace Division. The complaint was assigned to an inspector who contacted a Ministry physician who in turn telephoned the hospital on March 24 advising both the Director of Occupational Health and Safety and a Human Resources representative about the requirements under the *Occupational Health and Safety Act* to notify the Ministry of Labour of occupational illnesses. In addition the Ontario Nurses Association was contacted. The Ministry physician also discussed infection control measures with the hospital. The Ministry of Labour physician was told that they were receiving assistance from both Toronto Public Health and Mt. Sinai Hospital and were also in contact with Health Canada.
>
> On March 25, 2003, the Ministry of Labour physician spoke with a Toronto Public Health physician who confirmed that Toronto Public Health was attending at the Scarborough hospital to assist with infection control measures. On March 26, the physician from Toronto Public Health also confirmed that Toronto Public Health was investigating health care workers exhibiting SARS symptoms.[251]

This pattern continued in late May at North York General. On May 27, 2003, four days after the second phase of SARS erupted, the Ministry of Labour was contacted by workers at North York General. The Ministry, in its submission to the Commission, indicated that its response was much similar to its response at the Grace two months earlier:

> On May 27, 2003, a Ministry of Labour physician was contacted by a worker at North York General Hospital who raised a concern about

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[250] Ministry of Labour, submission to the SARS Commission, SARS Commission Public Hearings, November 17, 2003, pp. 9-10.

[251] Ministry of Labour, submission to the SARS Commission, SARS Commission Public Hearings, November 17, 2003, pp. 9-10.

> infection controls in the emergency department. The Ministry of Labour physician, after contacting a North York General Hospital occupational health representative, contacted the Director of Communicable Disease at Toronto Public Health regarding this concern. The Ministry of Labour physician was advised that Toronto Public Health was aware of the concern and their inspectors were in the hospital doing contact tracing. The Ministry of Labour physician specifically requested that the inspectors attend at the emergency department to review the worker concerns which had been communicated to the Ministry of Labour. Toronto Public Health agreed to do so.[252]

At the two largest SARS outbreaks in Ontario, at the Grace and North York General, the Ministry of Labour made no onsite visits to make sure workers were protected. It relied on telephone discussions and it deferred to public health authorities who, unlike the ministry, do not have the statutory duty to ensure that workers are protected under Ontario law. Under the way the provincial SARS response was structured and pursuant to a 1984 Memorandum of Understanding with the Ministry of Health,[253] the Ministry of Labour deferred to Public Health. This assumed that even with the myriad tasks on Public Health's plate, from the gargantuan challenge of contact tracing to deciding whether to close the hospital, Public Health had the resources and capability to give worker safety the same level of attention as the Ministry whose primary responsibility it is.

The WCB was not shackled by these kinds of systemic restrictions. Rather, the WCB independently took decisive action when a nurse contracted the disease at Royal Columbian, wanting to make sure there was no other workplace transmission.

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[252] Ministry of Labour, submission to the SARS Commission, SARS Commission Public Hearings, November 17, 2003, p. 11.

[253] Ministry of Labour, submission to the SARS Commission, SARS Commission Public Hearings, November 17, 2003, p. 10:

> Since 1984 the Ministry of Labour has been party to an agreement establishing lines of responsibilities where there are suspected outbreaks of infectious diseases in workplaces. This agreement provides that the Ministry of Labour has a general responsibility for investigating hazards in a workplace under the *Occupational Health and Safety Act* and that the local Medical Officer of Health has responsibility for the identification, investigation and control of outbreaks of communicable diseases. It also provides that where the local Medical Officer of Health decides to take charge of an investigation and control of an outbreak the Ministry of Labour will assist.

Disagreements Over PPE Addressed

The N95 respirator and fit-testing were major sources of contention during SARS in both Ontario and B.C. As in Ontario, some infection control practitioners in B.C. thought requirements for N95 respirators and fit-testing were unwarranted and excessive. One occupational health and safety manager was quoted as saying:

> Infection Control Practitioners in the acute care facilities abide by Health Canada guidelines re: appropriate respiratory protection and are reluctant to move toward the more stringent guidelines/ requirements of WCB.[254]

The resistance to fit-testing and N95 respirators was as entrenched among some infection control experts in B.C. as it was among some of their colleagues in Ontario. An infection control physician at one B.C. hospital told the Commission:

> The pressure from Worker's Compensation in midstream to suddenly demand full N95 usage and fit testing was not only nonsense but was potentially dangerous. In either regard, it was grossly inappropriate. And it was done perhaps in their mind in the best of intention but without any seeming notion of realities or the expertise of very experienced hospital folk. The notion that somehow we had this new virus that was going to work in mechanisms unlike any other virus that we had ever experienced before. It was just really outrageous.

A senior WCB official said:

> … actually it was a very difficult task because we got a lot of resistance from the medical community ... There were certain things they [some hospitals] were doing in terms of clinical procedures which we were extremely uncomfortable with. For example, when they were intubating probable patients … they had prescribed surgical masks and we said, wait a minute, you're exposing somebody to that airborne. And if it's airborne as far as we're concerned respiratory protection comes into place.

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[254] Chun-Yip Hon and Rita Ciconte, Occupational Health and Safety Agency for Healthcare (OHSAH), "Lessons Learned from SARS: An Occupational Health Perspective."

What was different in B.C. was how these and other worker safety issues were addressed and resolved.

As noted throughout this report, key players in worker safety in Ontario, including the Ministry of Labour, occupational hygiene experts and health unions, were not involved in a meaningful way in resolving workplace issues. The Ministry of Labour, as noted above, was largely sidelined during SARS.

Health unions were also on the margins. When worker safety issues arose, they did not know who at the Provincial Operationsn Centre was making worker safety decisions, how to communicate with them, or how to ensure that their members' concerns were heard.

Ontario Nurses' Association (ONA) and the Ontario Public Service Employees Union (OPSEU) said in their joint submission to the Commission's public hearings:

> - Prior to SARS ONA/OPSEU, was not aware that there was a POC [Provincial Operations Centre], nor that there was a POC-in-waiting, that would spring up in the event of a crisis such as the SARS outbreak.
>
> - To date, OPSEU/ONA are not sure who exactly was working at the POC, how they were chosen or what their roles were – ONA reports that at the OHA meetings this question was raised numerous times – To date both unions still do not know.
>
> - Most importantly, ONA/OPSEU did not know the background and expertise of the people who were drafting the Directives that directed the daily work of health care workers.[255]

Health unions, like the Ministry of Labour, also had trouble getting copies of directives and access to the Ministry of Health's "Dark Site."

ONA and OPSEU said in their joint submission to the Commission's public hearings:

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251. ONA/OPSEU, submission to the SARS Commission, SARS Commission Public Hearings, November 17, 2003, p. 6.

> In the early days of the crisis, both unions had difficulty getting access to the Directives at all. Although OPSEU/ONA was involved in teleconferences discussing the Directives, it was not until April 7, almost two weeks after the first Directive was released, that both unions gained access to what was called the MOHLTC "Dark Site." This is where the Directives were posted. Until this point, both unions had relied on contacts within the OHA or from union members to provide them with the Directives that were governing the work and the safety needs of health care workers. Even when both unions were issued the password to access the MOHLTC site, ONA/OPSEU was warned in writing that "the site is not intended for the general public and is password protected to provide access to healthcare providers/associations only" (undated memo from [name provided], Communications and Information Branch, MOHLTC). Shortly thereafter, both OPSEU and ONA began to post the Directives in their entirety on their own websites for members, accompanied by interpretations and advice.[256]

Ontario lacked a process to bring all workplace parties together and sort out quickly any workplace issues that touch on occupational health and safety. Janet Beed, the chief operating officer of the Ontario Hospital Association, has said:

> What we learned from SARS is that what is needed is a process to bring together the various partners – union, management, government, ministries, associations – to address these very complex systemic and legal issues, but we need to do that long before the crisis hits. When the crisis hits, we need timely action; we don't need bringing a group together that hasn't worked together before or has only worked in distant relationships. Bringing that group together in anticipation and setting up a set of ideologies and legislative requirements will help.[257]

The expertise of worker safety experts in Ontario was also not utilized, or well understood, as was noted in a number of submissions to the Commission.

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[256] ONA/OPSEU, submission to the SARS Commission, SARS Commission Public Hearings, November 17, 2003, p. 6.

[257] Justice Policy Committee, Public Hearings, August 18, 2004, p. 147.

The situation was dramatically different in B.C. All the workplace parties got together early in the outbreak and everyone with a stake in worker safety was involved.

Dr. Annalee Yassi, head of the Occupational Health and Safety Agency, said:

> The various agencies and organizations that needed to talk to each other got talking to each other very quickly. The, I cannot remember what date it was, but you know mid March, very close, very shortly, after the, you know, the events started occurring, a meeting was held that had brought together people from Infection Control, people from Public Health, the Workers Compensation Board, [the Occupational Health and Safety Agency] ourselves, we insured that we kept the health care force and the health care unions involved from the very beginning. There was a very good sense of we are all going to work on this together from the very beginning. There were no turf issues, there was no question of who should be the lead agency, this was just going to happen …

Through this process, guidelines supplementing the WCB's March 31, 2003, guide were developed collaboratively among all affected parties. An article in the *British Medical Journal* said:

> Guidelines were developed through a collaborative process involving the Workers' Compensation Board of British Columbia (the state's regulatory agency), the Occupational Health and Safety Agency for Healthcare (jointly governed by healthcare unions and employers), and provincial experts in public health, infection control, and infectious disease.[258]

What helped to bring all the parties together was the innovative Occupational Health and Safety Agency, which is jointly governed by employers and unions, including the Health Employers Association of B.C., the British Columbia Nurses' Union and the B.C. Government and Service Employees' Union.

Through this collaborative process involving all the workplace parties, decisions regarding personal protective equipment, despite ongoing differences of opinion, were made on the basis of the precautionary principle. The perspectives of worker safety experts were an integral part of the decision-making process.

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[258] "Severe acute respiratory syndrome guidelines were drawn up collaboratively to protect healthcare workers in British Columbia," *British Medical Journal* 326 (June 21, 2003):1394-5.

Dr. Yassi said:

> Well, you know, not to overstate it, there were certainly the two lines expressed, interestingly even more from the Public Health vs. Occupational Health community even more so than the Infection Control vs. Occupational Health community but I think there was an overall sense of we have to err on the side of safety and that also workers feeling that management cared about their well-being was manifest by over providing rather than under providing, and giving health care workers a sense that managements cares about them, in and of itself important. So even if the science that, you know, N95 respirators fit tested was absolutely whether it was clear or not there was a feeling of the act of doing it would give health care workers a sense of comfort that their needs were being looked after, so that I think factors into the decisions that were made.

Unlike in Ontario, B.C. health workers were also part of the process of implementing guidelines.

One B.C. union official was quoted as saying:

> Frontline leaders were consulted in addressing practical problems. For example, how to deliver meals to patients in isolation areas; nurses made management aware of just how long it took to glove/gown/mask etc… Once nurses got involved in the process, better decisions were being made, especially around staffing requirements/equipment.[259]

Was It a Matter of Luck?

How could the experiences of Toronto and Vancouver be so unlike?

There was an element of good fortune in the case of Mr. C at Vancouver General. He went directly from the airport to his family doctor, who sent him directly to Vancouver General, and, unlike in Ontario, he did not infect any members of his household.

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[259] Chun-Yip Hon and Rita Ciconte, Occupational Health and Safety Agency for Healthcare (OHSAH), "Lessons Learned from SARS: An Occupational Health Perspective"

Dr. Patrick of the BC CDC told the SARS Commission:

> The Toronto index patient was someone who spread it at her home. That's a harder thing to recognize. In B.C., our first individual did not have a huge extended family, presented at hospital and was recognized very quickly as possible SARS. The pattern of early spread is more to do with luck. Luck was a big element.

Dr. Perry Kendall, the Provincial Health Officer, told the SARS Commission:

> The index case had directly flown in from China. In Ontario, the index had no travel history. Made it a lot harder to make that link.

And yet, there is no denying the remarkable manner in which Vancouver General treated Mr. C. He was quickly isolated. Health workers took the kinds of precautions not routinely used in Ontario until much later in the outbreak. And while much has changed in the way many Ontario hospitals would react today in the event of another SARS outbreak, Vancouver General officials told the Commission they would treat Mr. C today much as they did in 2003.

Dr. Bryce, head of infection control at Vancouver General Hospital, said:

> I just don't think we would have been managed differently…

Vancouver General treated its index patient with the kinds of heightened precautions, including the use of N95 respirators and the rapid isolation of patients presenting with undiagnosed respiratory symptoms, that when appropriately implemented in Toronto proved effective in containing SARS.

What the case of Mr. C also demonstrated was B.C.'s ability to respond to an emerging threat before it was recognized.

The BC CDC had alerted front-line workers to be on the lookout for severe influenza-like illness in returning visitors from mainland China or Hong Kong. This message had reached emergency room staff at Vancouver General staff who were already suspicious of patients with undiagnosed respiratory illnesses. As one study concluded:

> [The case of Mr. C] tests the baseline capacity of a system to respond to emerging threats before they are known or recognized ... The response to

> [Mr. C] in Vancouver highlights the importance of central coordination, baseline preparedness at the local level, and an efficient network of communication in mitigating outbreaks. Baseline preparedness should include barrier precautions in the care of all acute-onset respiratory infections. These should be reinforced through timely public health alerts and periodic infection control audits.[260]

Many Ontario hospitals have adopted the kinds of worker safety policies, practices and systems in place at Vancouver General in March 2003, including the use of N95 respirators, more training for staff, and a greater emphasis on worker safety.

There was also an element of good fortune regarding the two other imported cases of SARS in B.C.

The first was a 64-year-old woman who returned from Hong Kong to Vancouver on March 20. She was later phoned by her family and told she had attended a dinner party with family members who had SARS. Two family members subsequently died of the disease. Although asymptomatic, she visited her family doctor on March 26. Two days later, when a chest x-ray showed bilateral consolidated, she was given a surgical mask and directed to Royal Columbian Hospital in New Westminster, B.C. She was admitted directly to a negative pressure isolation room. Neither of her two household contacts got SARS. She was discharged from hospital on April 21, 2003.[261]

The second was a 49-year-old man, who had stayed at the Amoy Gardens housing complex for a few days before returning home on March 30, 2003. More than 300 people in four separate buildings were infected at the Amoy Gardens in one of the largest community outbreaks of SARS. Back home, he isolated himself in the basement of his home and avoided contact with family members. By April 3, he was so short of breath that his son drove him to the emergency room of Vancouver General. Both wore surgical masks. He was immediately admitted to a negative pressure isolation room. He was discharged from hospital on April 21. No family members, including his son, got SARS.[262]

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[260] Skowronski et al., "Coordinated response to SARS."
[261] Skowronski et al., "Coordinated response to SARS."
[262] Skowronski et al., "Coordinated response to SARS."

The circumstances of these two patients made it easier to prevent further spread. Both attended at hospital wearing surgical masks. Both were immediately placed in negative pressure isolation rooms. And both clearly had epi links to SARS: the 64-year-old woman to family members with the disease, the 49-year-old man to the Amoy Gardens, the site of the largest community outbreak of SARS.

Dr. Patrick told the SARS Commission:

> It's much easier to contain something that has never spread than it is to contain something once spread is off the ground.

While there is no denying B.C.'s good fortune, it was also better prepared and better organized to contain any outbreak.

Dr. Perry Kendall said:

> We share information, we have been sharing information, different parts of the system and the Public Health system. And it takes one call from the Deputy Minister and in an hour you can have six CEO's and six V.P.'s of Nursing and six Chief Medical Officers of Health sitting on a teleconference call. You can't do that in Ontario. So, yes, we had some luck but I think we had a better organizational setup or a more optimal organization setup and we were better prepared in terms of anticipating imported cases.

Though occupational health and infection control are often described as separate silos, B.C. succeeded in bringing both disciplines to the table and ensuring their cooperation.

This is not to say there were no disputes in B.C. During the preparation of guidelines, discussions become heated on occasion. One participant in those discussions told the Commission that, despite the contentious nature of the issues, the meetings broadened the acceptance of worker safety principles:

> At points, they kind of got a little heated, everyone pretty much maintained their composure, but there are certain individuals, that obviously, have strong opinions and I noticed things at the first few meetings, first meeting at least, there was a lot of head banging, saying I do not see the value of this, and the other side saying well this is the value of it, but the more information that we presented from the

> [occupational] health and safety side in terms of well here is the research on it and here is what has been done, this issue has been looked at, and it was, it became a lot more acceptable to the infection control side, when they realized there is a science behind it, but definitely it was, it was somewhat heated at the beginning, just because there are some very vocal infection control people that are high profile, that have not really seen this as a requirement before and to change their stance immediately and their ideas was a bit of a challenge.

The difference is that in B.C. all the parties were at the table. All were given a voice. All were recognized as being part of the solution. Worker safety experts were given a prominent role and their expertise was valued.

Unlike in Ontario, the WCB was actively involved throughout SARS. It issued guidelines on March 31, 2003, and followed them up with 19 proactive visits. In Ontario, because of the way the SARS response was structured, the parties most involved in workplace safety, including the Ministry of Labour, ended up on the sidelines.

There was also quick recognition in B.C. of the danger that transmission to workers posed to other workers, to patients and, in fact, to the health system as a whole. This is especially evidenced by how the case of the nurse at Royal Columbian was handled. When there was a workplace outbreak, significant resources were dedicated to ensuring that there was no further workplace spread. There were joint teams of worker safety and infection control experts who were on-site until the danger had passed, and their efforts were monitored by WCB inspections.

There were many structural issues that helped assure the outcome in Vancouver, including efforts to promote a work safety culture.

Dr. Yassi told the SARS Commission:

> From the point of view of the health care response, first of all a fair bit of work had been going on in terms of promoting a safety culture in the workplace, and the need to pay attention to proper precautions, patient safety, worker safety so that with the high degree of suspicion that the BCCDC had and the good work that Vancouver Coastal Health [the regional health authority that oversees Vancouver General Hospital] had in terms of promoting proper use of personal protective equipment and escalation procedures and so on. I think that there was a better response

> from that point of view that from the very get go had people looking at there is a risk here we have to prevent transmission, protect ourselves, protect the transmission to others. So the climate was I think more attuned to a proper response.

Dr. Yassi also said:

> I think that consistent with that sense of collaboration and getting beyond what could have been turf issues was a sense of commitment to really a collaborative but evidence-based approach, that we will err on the side of safety and do what we, what the evidence tells us ought to be done, and that route really quite well. So I think really the combination of a lot of work that was done on safety culture to begin with and the collaboration and the, you know, the commitment to taking a prompt evidence based approach and really good communication with all stakeholders involved.

Conclusion

There was undoubtedly an element of good fortune that saved Vancouver from the devastation that SARS wrought on Ontario. But it must also be said that Vancouver made its own luck.

One study concluded:

> While favourable random chance may have played a role, Vancouver's response to SARS should not be dismissed on the basis of luck alone. Pasteur's edict that "chance favours only the prepared mind" may have modern relevance to the prepared healthcare system.[263]

The story of Toronto and Vancouver will extend beyond this chapter and resonate throughout this report, for it is against the backdrop of Vancouver's good fortune, better preparedness and systemic strengths that the rest of the story of SARS will be told and Toronto's performance assessed.

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[263] Skowronski et al., "Coordinated response to SARS."

Even with the crucial differences in the way the index cases presented to hospital in Vancouver and Toronto, it is fair to compare and contrast the differences in every respect, in preparation, worker safety and the application of the precautionary principle.

Courage, Achievement and Misfortune at the West Park Healthcare Centre

Introduction

This is the story of the remarkable contribution of the West Park Healthcare Centre,[264] a chronic care facility in northwestern Toronto, to the fight against SARS. It is a story that displays the underlying weaknesses of a health system in crisis and how people who step forward with great courage respond to an emergency. Sadly, it also is the story of how one nurse who stepped forward, Tecla Lin, got sick and died.[265]

A Worsening Crisis

March 23, 2003, was the day when the enormity of the SARS outbreak became clear and it was apparent that worse days might lie ahead.

At the epicentre of the outbreak, the Scarborough Grace Hospital's emergency department was shut, its ICU accepted only inpatient cardiac arrests; the closing of the entire hospital was on the horizon. Particularly worrying was the growing toll of the disease on the Grace's physicians, nurses and other health workers. By the morning of March 23, 21 health workers at Scarborough Grace Hospital had reported sick.

To make matters worse, there was no place to care for the sick Grace workers. The hospital was short of negative pressure rooms, and even those few rooms would soon be out of action. The Grace was shut down the next day.

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[264] Founded in 1904 and located on a 27-acre campus, West Park provides specialized rehabilitation, complex continuing and long-term care services. It has 279 rehabilitation and continuing care beds, 133 rehabilitation beds, 148 complex continuing care beds, and 200 long-term care beds. (http://www.westpark.org/about/facts.html).

[265] Ms. Lin's name is used here because the circumstances of her illness and death are in the public domain.

Dr. Donald Low recalled in a lecture during the outbreak:

> That was sort of when it hit the fan, when all of a sudden we realized that we just didn't have a problem within a family, we were having hospital workers reporting, phoning in with fevers, EMS, emergency, the paramedics, ambulance drivers with fever, visitors who had been in the hospital that were sick, family members.[266]

As noted elsewhere, Dr. Bonnie Henry of Toronto Public Health said:

> We were coming to the realization that these people probably had this disease, and that we needed to do something . . . The hospital did not feel they could look after their people adequately, because they didn't know how many staff were getting sick. And we were unclear of the situation.

Other Toronto hospitals had reached or were nearing the limit of their capacity to accept new cases. So where to put the growing number of SARS cases at Scarborough Grace? The people leading the fight against SARS had few options in the mounting crisis and discussed the possibility that West Park's old tuberculosis unit, which had been mothballed in 2001,[267] provided the only, albeit imperfect, solution to the problem of where to house the sick Scarborough Grace health workers.

West Park is a century-old rehabilitation and continuing care facility that sits on 27 acres in Toronto's Weston area. It was opened in 1904 as the Toronto Free Hospital for Consumptive Poor. For decades it was a leading treatment centre for tuberculosis patients known locally as the Weston San. In the 1970s, as tuberculosis (TB) began to diminish, the facility moved into other health areas such as rehabilitation, and in 1976 its name was changed to West Park Hospital and later to West Park Healthcare Centre.

On March 23, in a matter of hours, in a remarkable display of generosity, the old TB unit was reopened and began accepting Scarborough Grace health workers. Over the next two days, 14 were admitted to hospital. All would recover.

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[266] Donald Low, "On the front lines: clinical experience in Toronto," conference presentation, New York Academy of Sciences, May 17, 2003.

[267] West Park's 22-bed, state-of-the-art tuberculosis treatment facility was opened in 2000 in its Main Building (http://www.westpark.org/about/hismilestones.html).

Amid this enormous achievement, however, there was tragedy. Tecla Lin, a West Park nurse who had volunteered to treat her sick colleagues, caught the disease and inadvertently spread it to her husband. He died on April 26, 2003. Ms. Lin died on July 19, 2003, becoming the second nurse claimed by SARS in less than a month.

Discussions to Reopen Old TB Unit

The best place to accommodate the sick Grace health workers would have been an acute care hospital with enough negative pressure rooms. But as the Naylor Report noted:

> On March 23, 2003, officials recognized that the number of available negative pressure rooms in Toronto was being exhausted.[268]

Sunnybrook[269] generously agreed to accept SARS patients but said it needed to upgrade its facilities first, a process that would take 48 hours.

The other possible choice, West Park's old TB unit, was far from ideal. Located in the 1930s E. L. Ruddy Building,[270] it didn't meet current standards for treating respiratory illnesses. A West Park official said:

> It's not really conducive towards current practices in medicine and treatments in medicine with regards to therapies, occupational therapy, physiotherapy, those types of things.

There were no negative pressure rooms, no anterooms where staff could change their protective equipment before heading into common areas, and no washbasins outside patient rooms. Some patients would have to leave their rooms to use a washroom across the hall.[271]

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[268] Naylor Report, p. 27.

[269] During the SARS outbreak, Sunnybrook was part of the Sunnybrook and Women's College Health Sciences Centre.

In June 1998, the Ontario government passed a special act of legislation (Bill 51) creating Sunnybrook and Women's College Health Sciences Centre (Sunnybrook & Women's). This new health organization amalgamated Sunnybrook Health Science Centre and Women's College Hospital. On August 18, 2005, the Ontario government announced that Women's College Hospital and Sunnybrook would again become separate healthcare facilities.

[270] See http://www.westpark.org/about/hismilestones.html.

Because of these and other shortcomings, the old TB unit could not provide optimal conditions for safely treating SARS patients. As a communicable diseases manual edited by one of the WHO's top SARS experts said:

> Probable SARS cases should be isolated and accommodated as follows in descending order of preference: negative pressure rooms with door closed, single room with own bathroom facilities, cohort placement in an area with an independent air supply, exhaust system and bathroom facilities . . .
>
> Movement of patients outside the isolation unit should be avoided . . .
>
> Handwashing is crucial and access to clean water essential with handwashing before and after contact with any patient.[272]

Despite its many inadequacies, those at the head of the SARS fight believed correctly that there was no other option but West Park. There was certainly no alternative in sight.

At about 1 p.m. on March 23, a Regional Director of the Ministry of Health and Long-Term Care called West Park's on-call administrator.

A memo by the on-call administrator said:

> At 1300 hours on Sunday, March 23, 2003, I was contacted by [name provided], Regional Director, Ministry of Health, to consider opening one of our closed units to accommodate a group of patients that may have been exposed to an acute respiratory illness referred to as SARS . . .
>
> On March 22, 2003, Scarborough Hospital received 15 calls from staff reporting flu like symptoms. Today, 10 more staff called in with flu like symptoms. Public Health was contacted concerning this issue. Public

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[271] Report by Ministry of Labour investigator Stella Barber, December 9, 2003, pp. 25-26.

[272] David L. Heymann, ed., *Control of Communicable Diseases Manual*, 18th Edition (Washington, D.C.: American Public Health Association, 2004), p. 484

> Health and the Ministry of Health have had multiple conversations and have daily conference calls to discuss the issue. The Ministry of Health decided to identify a place where the patients could be isolated and watched in a contained unit.
>
> The Ministry's first choice was to identify a hospital that had a negative pressure unit to accommodate upwards of 25 patients that are showing symptoms of SARS. No unit exists within the Toronto area.
>
> The next choice was to find a hospital that had an isolated building, either not in use or a building that did not have a shared air handling system. (West Park's Ruddy Building fit that profile.)
>
> [Name provided] further advised me that West Park came to mind because:
>
> We have closed units.
>
> We have expertise in handling infectious respiratory illnesses with our TB experience.
>
> We have respiratory expertise here at West Park.

The on-call West Park administrator explained the closed unit would require a great deal of work before it could reopen. His memo said:

> In my telephone discussion with [name provided], I advised her that we do have a closed unit in the Ruddy Building that can accommodate upwards of 29 patients. However, the unit is currently out of operation and has been for 2 years and would require a significant effort on behalf of West Park to recondition the unit to accommodate patients in any sort of short-term notice.
>
> [Name provided's] response was she is not concerned about providing all the finishing touches in a unit and the Ministry will be quite willing to tolerate some grumblings and complaining of patients that fill a unit where they can isolate this group of patients.
>
> I responded that I would not be able to confirm that West Park could accommodate the Ministry's request at this time without further discus-

> sion with Barry Monaghan, President and CEO.

Things moved quickly. About an hour later, the on-call administrator joined a conference call with provincial and local officials, including Dr. Henry and Dr. Colin D'Cunha, the Chief Medical Officer of Health.

The Administrator's memo said:

> I asked if [name provided] was able to identify another hospital that could accommodate this emergency request, as West Park was not equipped to open a unit immediately.
>
> [Name provided] responded that the Ministry had no success in identifying another hospital and that West Park was considered to be a prime location for this because:
>
> Our expertise in respiratory illness.
>
> We have a unit in the Ruddy Building that does not have a shared air handling system.
>
> We have experience in dealing with infectious respiratory diseases such as TB.
>
> In Summary, West Park – You are it.

West Park Reopens Old TB Unit

Despite the Ruddy Building's inadequacies, and even though the facility was not equipped or staffed to provide an acute level of care, West Park accepted the challenge.

Dr. Sheela Basrur, then Toronto's Chief Medical Officer of Health, said:

> Some of those workers [from the Scarborough Grace Hospital] had become ill, they needed a place to be cared for, and West Park generously opened up a wing of their hospital and looked after them.[273]

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[273] Justice Policy Committee, Public hearings, August 18, 2003, p. 160.

Immediately after the 2 p.m. teleconference, efforts began to reopen the old TB unit. There was no time to spare because the first patients would arrive later that evening.

Dr. Henry said:

> On Sunday afternoon West Park operationalized, incredibly quickly, and we started calling all of the staff back and saying we need you to go there now.

In about six hours, the former TB unit was made ready. Rooms were washed. Beds were wiped down and placed in each room. Bed linen and patient gowns were obtained. Curtains were put up. Arrangements were made with food services.

An in-house publication quoted a West Park manager as saying:

> The thing that impressed me most . . . was how hard the staff worked, their willingness to pitch in and do anything necessary to get the unit up and running.[274]

An on-call nursing service manager arrived at 4:00 p.m. She said:

> . . . my first responsibility was to try and attain staff to care for the patients . . . And we were speaking with staff at Scarborough Grace hospital who were giving us the clinical background of these patients so that we would have a better idea of what their state was, what kind of supplies and equipment we would need to be able to provide care for them.

Dr. Peter Derkach, West Park's Chief of Staff, got a message on his pager at around 5:00 p.m.:

> We were at a birthday party, I was not on call, but I always carry my pager anyways. And I came home and there was a message on the answering machine to say that I should report to the board at West Park as soon as I get that message . . . I went to West Park and there was already a meeting in progress. And Barry Monaghan, our President, was there and other

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[274] West Park Healthcare Centre, *Community Report*, October 2003.

> senior management staff. I believe our infection control nurse was there at that time . . . and others, whom I can't remember at the moment. But any rate, there was a discussion in progress about a conversation that had taken place regarding a phone call from the Ministry asking us to set up a unit, to help out. And because the Ministry knew that we had an empty unit, it was an old TB unit for that matter, and also because of our expertise in dealing with TB and infectious disease.

Dr. Derkach went home, packed some clothes, and returned to West Park, not knowing when he'd see his family again:

> As Chief of Staff I simply assumed that I needed to be involved in this and it was part of the job, I would do it anyways, just go right in. But I went home, packed my bags and told my wife I wasn't quite sure when I would see her again, and came back.

He was also concerned about his children:

> I told [them] . . . not to tell anybody at school that I was involved in dealing with SARS because I didn't want them to be shunned in any way.

Patients Begin Arriving at West Park

Through the evening of March 23 and into the early hours of March 24, staff at West Park hurried to get the SARS unit up and running.

Dr. Derkach said:

> Physically everything was rushed, and you know we were organizing ourselves, I mean from the basic things, like where to put these forms and those forms and this paper and pens, and where do we keep the gloves and the gowns, and patients rolling in, where do we get food, where is the water, where's the pantry, where's this, where is the washrooms, it's just the normal things, and so there was an element of commotion . . . although there wasn't an element of panic or fear per se, there was just a job that needed to be done, and everybody was trying to do their best.

Dr. Donald Low volunteered to attend at West Park and help admit patients. He was accompanied by a Mount Sinai epidemiologist and brought much-needed supplies, including goggles and disinfecting wipes.

Late in the evening of March 23, the first health workers from the Grace were directed to go to West Park.

One of those health workers said:

> And then I sort of noticed I started to get a dry cough Sunday in the afternoon so I came in, in the early evening, and apparently a whole slew of various, nurses and techs had started to show up. And they took an X-ray, the first set of the chest X-rays, and they said at first glance it looked okay, but they looked at it a little more closely, they saw a bit of infiltrate in one spot, a sort of fuzziness.
>
> And then they said, because of your symptoms as well, they've opened up an unused floor at the West Park, where they can isolate everybody. We're going to send about a dozen of you over there. So I ended up going there.

Transportation arrangements were improvised. Dr. Bonnie Henry said:

> We figured it was probably safest to go in a private vehicle, and we told them don't take public transport, go in a private vehicle, sit in the back seat if somebody is driving you, keep the windows open, that sort of stuff, which seemed to be the most the best we could do at the time. Some people did have masks and we asked them to wear them.

One doctor involved in the opening of West Park recalled:

> Between Sunday night, all Sunday day, early Monday morning and Monday, we admitted 14 health care workers that had fever. Everybody from housekeeping to one of the anesthesiologists. They came by taxi, they came by ambulance, they drove themselves in. It was quite remarkable as the night went by, you saw these people, the elevator door would open and you would have two more patients there. These all were people who had come back to Scarborough Grace over the weekend with fever or they had been assessed and sent home and now they realized that they had it and they got phone calls saying you've got to report to West Park.

The sick health workers from Scarborough Grace appreciated the health workers who came to care for them despite the risks. One said:

> I am so thankful that anybody came.

Another said:

> I had no idea where West Park was. I'd heard about some place they had chronic ventilators, patients who needed long-time ventilation, but I knew nothing more about it than that.
>
> I did know that some of my colleagues were already down there, so I sort of felt better at that, I knew I was going down to be with some of them . . .
>
> West Park on the whole was great. They were amazing at West Park, absolutely amazing. . . It was as if they were looking after their own. I couldn't say a bad thing for anyone at West Park.

The rooms at West Park were old and, recalled one health worker, there were "dust bunnies" under the beds.

One nurse from Grace said:

> Once we got to West Park, I remember [a colleague] and I saying, well, the entrances were very bright, very clean, very nice. It was cheerful down there.
>
> But once we got up to, I think it could've been the third floor, I'm not sure, we were greeted by Dr. Don Low. He was there with a gown and mask and gloves.
>
> And then we looked down the halls and there were lines of hampers and gowns, it looked like a sanatorium. And I was sent to my room. It was a huge room with three beds but I was the only one there.

A remarkable closeness developed between patients and staff. Dr. Derkach said:

> They were there, they bonded with us, they were extremely close with us, you know it's kind of a mentality that is extremely well known in doctor-patient relationships, but this had an extra added feature . . . you're held captive in a place for so long, and even though in retrospect it was only three weeks, or four weeks or whatever it was, but it was long enough that the people bond together. And we couldn't not work on a floor because we committed ourselves, we couldn't work anywhere else, and they couldn't leave, so we were there every day. And every day, twice a day, we would make complete rounds, and we would go and see everybody, so we got to know them intimately, and they got to know us, my personality and the personality of everybody else, and you bond together.

Patients at West Park experienced difficult periods of isolation and loneliness. A medical study on the SARS unit at West Park said:

> Most patients expressed feelings of fear, depression and anxiety at the time of the acute illness . . . In addition, many expressed nonspecific anger and frustration at being in isolation and without contact with family and loved ones. This was particularly the case for those patients with young children, and especially the two patients whose children developed SARS.[275]

Dr. Derkach said:

> Answer: Well they were pretty sick, frightened, terrified. And one of them simply just wanted to go home, but we told them we couldn't let them go home. But even if they wanted to go home they had to stay . . . Most of them were very compliant and cooperative and very, very afraid, and a few of them were very sick. Three of them ended up being very seriously ill. We even tried to transfer them out, but we couldn't transfer them out. There were no rooms in the intensive care units, or we couldn't get an ambulance, and the

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[275] Monica Avendano, Peter Derkach, Susan Swan, "Clinical course and management of SARS in health care workers in Toronto: a case series," www.cmaj.ca, May 28, 2003; revised June 6, 2003, p.1657 (Avendano et al., "Clinical course and management of SARS in health care workers").

patient improved by the time we could, so we said forget it.

Question: It must have been hard to try to reassure them?

Answer: Reassure them for what, with what? But there was nothing to say. We did talk, of course, but reassure them with what, that they weren't going to die, that we didn't know? We didn't think they were going to die, but already I think out in the southeast, there was already beginning to be this inkling that, not everybody dies, they've got it, and most survived, but there were already beginning to be, a good total of number of people that had died already, so we didn't know how long it was going to last, we didn't know how long we were going to be there, we didn't know what we were treating, how it was going to work out. It was one big one giant question mark, and there wasn't much to say other than we were there together. And as with all other types of epidemics, these things tend to run their course and eventually this will go.

Shortages of Staff

Staffing the SARS unit was a problem from the start.

As the Naylor Report said:

> Despite the efforts of West Park physicians and nurses, and assistance from staff at the Scarborough Grace and Mount Sinai Hospitals, qualified staff could be found to care for only 14 patients.[276]

Part of the reason was the lack of acute care[277] expertise at West Park. Since West

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[276] Naylor Report, p. 27.

[277] "Acute often . . . connotes an illness that is of short duration, rapidly progressive, and in need of urgent care" (www.medicinenet.com/script/main/hp.asp).

Park was not an acute care hospital,[278] the skills, expertise and experience of its staff were more attuned to its core chronic care programs.[279]

A nursing manager said:

Question:	Did you have problems recruiting [nursing] staff?
Answer:	I did. Primarily I believe because we're not an acute care facility . . . I tried to ask staff who had IV experience. Again, not being an acute care facility, we don't get a lot of IVs.

Fear of SARS also played a role in the staffing shortages. A senior public health official said:

> There were always concerns about staffing that unit. People were afraid. People were concerned about ensuring that we had all the correct protection for people who were working the SARS cases, myself included.

One of the first nurses to volunteer for the SARS unit was Tecla Lin.[280] The 58-year-old nurse had extensive experience in Hong Kong and Canada and was employed part-time at West Park.[281]

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[278] A facility that provides "short-term medical treatment … for patients having an acute illness or injury or recovering from surgery" *The American Heritage Dictionary of the English Language*, 4th edition.

[279] West Park's website describes its core programs in the following terms (www.westpark.org/patientservices/index.html):

> Rehabilitation and Community Living: Helping patients overcome such health challenges as stroke, lung disease, amputation, severe trauma or brain injury through active rehab care and support.
>
> Complex Continuing Care: Providing compassionate and respectful chronic care in a warm and therapeutic environment to residents who need longer term medical and nursing care.
>
> Long-Term Care: Providing a home-like environment, quality nursing and supportive care to the frail elderly and those not able to live safely on their own.

[280] "West Park Healthcare Centre announces death of staff member," West Park news release, July 20, 2003, http://www.westpark.org/media/newsSARSannouncement072003.html.

[281] Biography of Tecla Lin, http://www.westpark.org/media/PDF/Tecla%20Lin%20Biography.pdf.

Dr. Monica Avendano, a respiratory medical specialist who had been at West Park for 25 years, said:

> I knew her for quite a while. She was a very good nurse.

Dr. Derkach also knew her:

> Question: What was she like as a person?
>
> Answer: Oh, . . . very bubbly, perky, helpful, really nice. She was great. Very active, that's how I remember her. Charming, and always ready to help. If you asked her for anything, she would be right there.
>
> Question: Did she volunteer for this unit?
>
> Answer: They were all volunteers throughout the whole thing. We didn't force anybody to work.

It was also difficult to find physicians to staff the unit. Besides Dr. Derkach, the only volunteers were Dr. Avendano and a physician who was leaving West Park and was able to work for only the first few days.

Dr. Derkach said:

> Question: Were you surprised that no one volunteered to help you out?
>
> Answer: Yes and no.
>
> Question: How so.
>
> Answer: Well, you know, there was a certain element of danger. There was certainly a big element of danger to it. So I wouldn't have expected everybody to volunteer, but I was also disappointed that no one else volunteered. So it was really just Dr. Avendano and myself who were there . . .
>
> You know the other thing was, by the way, that some-

> body had to man the rest of the hospital. The work still had to continue and so there was the reality that people needed to work elsewhere, because I certainly couldn't go back and forth, between units, and neither could Dr. Avendano. So the other respirologist said that he would help us out with reading X-rays, trying to organize some of the diagnostics, that sort of thing. But that was the extent of what we had.

Those who did volunteer displayed a remarkable courage and sense of duty. Dr. Avendano said:

> I suppose we were enough, or maybe at times we were not enough, but I can tell you that the people who worked in that unit were all extremely dedicated people, that I will work with them any time, because it was a risky situation. The staff that cleaned, the housekeeping, did not want to go either. So we had a woman that was absolutely amazing, she was always there working, washing and cleaning. And at one point, [something spilled on her] and she was in a panic, and we just washed her. The pharmacist was all the time there, from eight o'clock until eight o'clock at night. The infection control nurse . . . was all day there, the ward clerk in the TB unit worked there with his mask because there were so many papers coming and going.

An important factor, said Dr. Avendano, was the support from West Park's top management:

> The CEO, Barry Monaghan, was absolutely amazing. You know many physicians do not have very good relationships with their administration. He was there all the time. If we needed something at seven o'clock, we would call his office and he was there. We need something at ten o'clock, we call his office and he was there. We had every day the noon conference with all the SARS units, and he was there. He was not afraid of sitting in the room with us, which was appreciated, because everybody else was afraid of that.

Tecla Lin Contracts SARS

As Table 1 indicates, Tecla Lin began working on the SARS unit on the evening of March 24, 2003. Her last shift was more than one week later, on April 2.

Table 1 – Tecla Lin's Work Schedule at West Park

	Shift	**Time at Work**
Monday, March 24, 2003	Night Shift – 12 Hours	7 p.m. to 7 a.m. (March 25)
Tuesday, March 25, 2003	Night Shift – 12 Hours	7 p.m. to 7 a.m. (March 26)
Thursday, March 27, 2003	Split Shift – 8 Hours	3 p.m. to 11 p.m.
Saturday, March 29, 2003	Split Shift – 8 Hours	7 a.m. to 3 p.m.
Monday, March 31, 2003	Split Shift – 8 Hours	11 p.m. to 7 a.m. (April 1)
Wednesday, April 2, 2003	Split Shift – 8 Hours	11 p.m. to 7 a.m. (April 3)

On April 3, 2003, Ms. Lin had onset of fever, myalgia[282] and cough. One day later, she was seen at the SARS clinic at the Women's College Campus, where her chest X-ray showed pneumonia. She was admitted to Sunnybrook Hospital.[283]

Her husband's fever began on April 3, and he was also seen at Women's College Campus. He was sent home because doctors did not think he had SARS. His condition worsened on April 7 and he was admitted to Toronto East General on April 9. He died on April 26, 2003.[284]

On May 27, Tecla Lin was transferred from Sunnybrook to the William Osler Health Centre.[285] She died on July 19.[286] No one knows how Tecla Lin contracted SARS.

Dr. Derkach said:

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[282] "Myalgia: Pain in a muscle; or pain in multiple muscles. Myalgia means muscle pain. There are many specific causes of various types of myalgia. Myalgia can be temporary or chronic. Myalgia can be a result of a mild conditions, such as a virus infection, or from a more serious illness" (MedicineNet.com).

[283] Toronto Public Health Case Review.

[284] Toronto Public Health Case Review.

[285] Ministry of Labour investigation into the death of Tecla Lin, p. 43.

[286] Toronto Public Health Case Review.

Question: Any sense of how Tecla Lin got sick?

Answer: No. It's still a mystery to this day . . . I don't remember her breaking protocol. I don't remember seeing anybody walking around or going into a room without a mask or without gloves or without anything. Nobody did that. Now whether she broke her protocol at one point for a short while but we didn't know, I have no idea, but she didn't seem to be different than any other one of us. And she was always, as far as I could see, pretty careful about doing what she needed to do to protect herself. I don't think we'll ever know.

Dr. Avendano recalls that Ms. Lin helped treat a very ill SARS patient during the early part of the patient's incubation period, but was well protected. When asked how Ms. Lin contracted SARS, Dr. Avendano said:

> I don't know, because it could have been, the incubation period could be from one day to 10, 11, and 12, so it could have been other patients. He [the patient] was coughing quite a bit that night, but she was very protected, that night she was fully protected, because he was coughing so much.

The aforementioned study on the SARS unit at West Park stated:

> After one of our nurses was diagnosed with SARS, 24 members of the SARS unit team were quarantined, some at home and others on working quarantine. This was a source of considerable stress for our team.[287]

Ministry of Labour Not Consulted

When West Park's old TB unit was reopened, the Ministry of Labour was not consulted, even though it knew first-hand of shortcomings and had the expertise to try to mitigate them.

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[287] Avendano et al., "Clinical course and management of SARS in health care workers."

In 1995, the Ministry had inspected the old TB unit at West Park's Ruddy Building. It found deficiencies with the ventilation system and with the type of respiratory protective equipment worn by staff.

A senior Ministry official said that under the best of circumstances, West Park's old TB unit was "a poor choice" for SARS patients:

> Certainly, putting people with respiratory illnesses in a facility that is clearly identified as being inadequate for respiratory illnesses seems like a poor choice.

However, he also recognized the exigent circumstances of March 23:

> Now, if it's an emergency situation and there's nowhere else to move people and they were stuck with them, then they really have to be diligent about the hand washing, environmental cleaning and the use of fit-tested N95s.

In hindsight, it is clear that the Ministry's involvement would have been germane when West Park's old TB unit was reopened. Although no one can say what impact Labour's involvement might have had, neither can it be said that without the Ministry's participation everything was done that could have been done to make the old TB unit a safe workplace.

That Labour was not consulted does not reflect on those who made the decision to reopen the old TB unit. They acted in good faith and did their best under trying circumstances in a crisis that appeared to be spinning out of control. That no one thought of calling the Ministry of Labour shows once again how little awareness there was in the health care system about Labour's expertise and role.

In addition to the incredible success noted above, the story of West Park Hospital demonstrates the importance of ensuring that the workplace regulator is an integral part of the response to a public health emergency like SARS.

Systemic Problems

West Park, a chronic care facility that normally offered rehabilitation, continuing care and long-term care services, was asked to provide the kind of acute care that challenged even the most sophisticated resources of the city's teaching hospitals.

That West Park was able to do so is a notable achievement, and needs to be acknowledged.

What also must be acknowledged is that West Park faced many of the systemic problems that, as is noted throughout this report, hampered the overall SARS response. If these systemic problems were difficult to overcome for some of Toronto's leading teaching hospitals, they were doubly so for an institution which was not oriented to providing specialized acute care and which did not have the benefit of sophisticated academic and research support.

The health care system lacked the capacity to provide West Park, and indeed every other SARS hospital, with the kind of worker safety and infection control support and assistance that might have helped to mitigate the shortcomings of the Ruddy Building.

As in every other SARS hospital, for example, staff on the SARS unit at West Park were not fit tested until after the outbreak. And on the evening of March 23, 2003, when West Park began to receive its first SARS patients, there was no clear direction that staff had to wear N95 respirators.

Dr. Derkach said:

> I think I was basically wearing just a regular surgical mask. I think. The N95 aspect really didn't come until days later, if not maybe even a week later. Maybe longer, it's hard to say. But there was certainly no directive on that Sunday you had to wear N95 masks because nothing else was worthwhile. That wasn't there.

When asked whether the Ministry of Health provided any technical information, Dr. Derkach said:

> The only information that I got actually was really from [Dr.] Don Low and whatever I could find on the Internet. Those were my two sources. And [Dr.] Don Low, I remember, he photocopied some information and he brought it in.

Dr. Derkach also said:

> I don't think the Ministry told us anything, period. And I think it's whatever I heard from Dr. Low, whatever I could glean from the Internet,

> whatever [the infection control nurse on the SARS unit] thought was good, prudent infection control. And so that's why eventually, within a period of days, we just went to full protection. So, again, I think, by the end of the week, again I can't remember exactly, but we were just putting everything on. And we realized how difficult it was to maintain those precautions, so once you came out of the room and you disrobed, what happened then?

For information on how to protect themselves, staff on West Park's SARS unit, as in every other SARS hospital, relied on the Provincial Operations Centre's directives, but like many other health workers they found those directives to be confusing and incomplete. As noted in the Commission's first interim report, problems with the directives were not the fault of those who prepared them but show the inadequate conditions under which the directives were prepared[288].

West Park physicians and nurses did the best they could. Dr. Avendano said:

> We had no other choice, and we were very strict in terms of caring for ourselves. I was very, very strict, and if anybody I thought was not being strict, I would tell them.

Dr. Low said:

> You didn't have the proper isolation, you didn't have anterooms, you didn't have anything, but you were just trying to do the best you could.[289]

It is instructive to compare West Park's lack of outside worker safety support, and indeed the lack of support provided to all Ontario SARS hospitals, to what happened at Fraser Health, the health authority east of Vancouver. When Royal Columbian Hospital, one of the 12 hospitals it oversees, received its first SARS patient on April 1, a Fraser Health safety specialist was on site to make sure staff were protected.

An occupational hygienist told the Commission:

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[288] SARS Commission, first interim report, pp. 81-89.

[289] Dr. Donald Low, "On the front lines: clinical experience in Toronto," conference presentations New York Academy of Sciences, May 17, 2003.

> On April 1st we had the patient at Royal Columbian Hospital, and they got transferred to Surrey Memorial Hospital onto their ICU department. I started working with Royal Columbian staff, that is where my office was, and that is where one of our highest, our busiest emergency departments is…

When the patient was transferred to another hospital, Surrey Memorial, other worker safety specialists were on site to make sure that hospital's staff were protected.

Initially, there were shortages of N95 respirators at both Royal Columbian and Surrey Memorial, and it was difficult to fit test everyone. Work safety specialists used their expertise in occupational hygiene to mitigate the risks from respirator shortages and from a lack of fit testing. They were on site to make sure staff at both hospitals knew how to use N95 respirators, including visually inspecting staff wearing personal protective equipment.

An occupational hygienist at Fraser Health told the Commission:

> We did not have enough [N95 respirators] to provide for all the staff for fit testing and everything. So at that point in time what we did is we provided them with education on how to put it on and how to take it off properly. We went through the fit check.[290] We went through all that information. We visually inspected as best we could whether they were getting a good seal. But because we did not have enough N95s, we could not fit test everybody at that point.

There was also a different response in B.C. when a nurse at Royal Columbian got SARS. Unlike what happened at West Park after Tecla Lin contracted the disease, Fraser Health dedicated a team of infection control and worker safety experts to Royal Columbian Hospital to ensure that there was no further nosocomial transmission. Nurses, physicians and other staff on affected wards were given intensive assistance to make sure they were protected.

An occupational hygienist at Fraser Health told the Commission:

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[290] Before a respirator is used, a fit check ensures that there is a good seal.

> We had hands-on training and supervision and provided support to them. We made sure they were taken care of. Went over with them, training them . . . We got to a high level of involvement very quickly. That definitely assisted in preventing a nosocomial outbreak.

Joint teams of worker safety and infection control experts were on hand on the affected wards for each health worker shift change. They made certain that health workers knew proper procedures, were fit tested and had the latest information on SARS. They were also on hand to get feedback from staff and to address their safety concerns. And they verified that all support staff, including x-ray technicians, cleaning staff and catering staff, were properly protected.

As noted earlier in the report, one Fraser Health occupational hygienist told the Commission:

> We were there for all of the shift changes so any time a staff member would come in, we were there. Infection Control was there. We gave them a full update on everything they needed to do. We would make sure that they were fit tested. And then any staff that would potentially go into that room we were fit testing as well. So our medical imaging staff or laboratory staff who needed to draw blood or the various support services that might need to go into that room to provide care for the patient. So there was a huge amount of fit testing at that point.

To ensure that there was no further transmission, the Workers' Compensation Board, the workplace regulator in B.C., also sent inspectors to Royal Columbian.

When Tecla Lin got SARS, neither West Park nor any other Ontario hospital received the kind of support that was given in B.C. Worker safety and infection control experts were not sent to West Park or any other Ontario hospital to make sure staff were protected. And the Ministry of Labour did not conduct any proactive inspections.[291]

That there was no such assistance and regulatory support for West Park is yet another example of the systemic weakness in worker safety resources and culture in Ontario.

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[291] The Ministry of Labour's investigation into the death of Tecla Lin will be discussed later in this report.

Conclusion

Tecla Lin and the other men and women who staffed West Park's SARS unit did a remarkable job and displayed incredible courage and a strong sense of public duty. They worked under the most trying of circumstances and were not helped by a system unprepared to protect health workers. The province of Ontario is fortunate to have such men and women in its health system.

Provincial and local health officials who felt that West Park was the only option available for treating the Grace's sick health workers were dealing with a mounting crisis and the decision was made in good faith to ask that West Park's old TB unit be reopened. They did the best they could under the circumstances. The equally dedicated officials at West Park, who bravely accepted the challenge of opening up the Ruddy Building's old TB unit, also did so in good faith.

There were no teams of worker safety and infection control specialists dispatched to assist staff at West Park or any other Ontario hospital, as there were in Vancouver. And there were no proactive inspections by the Ministry of Labour, as there were in Vancouver.

The health system in B.C. was prepared to protect workers under exigent conditions. It had worker safety specialists who knew what could be done to mitigate risks in difficult situations like a lack of N95 respirators. It made sure they were on site at hospitals with SARS patients. And it made sure they worked directly with staff who treated SARS patients, including visually inspecting how they put on personal protective equipment.

Ontario was not as well prepared to protect its workers.

The Disaster at Mount Sinai Hospital

Introduction

On March 12, 2003, Mr. N, a 75-year-old man with a history of serious illness, including a liver transplant and triple-bypass surgery, visited a foot clinic at Scarborough Grace Hospital, where he contracted SARS.

These were still early days in the outbreak at the Grace, and the focus remained on Mr. T, and on whether he might have tuberculosis. There was concern that something unusual was happening at the Grace, but as of March 12 no one realized that a new disease, later called SARS, was in the hospital, let alone that it would spread among patients, visitors and staff.

Mr. N felt unwell a few days after his foot clinic visit, and was admitted to the Grace on March 22. His condition worsened and he needed intensive care the next day. With the outbreak surging through the Grace, its ICU could take no new patients, and he was transferred to Mount Sinai's ICU. No one knew that Mr. N had SARS and was bringing it to Sinai. He infected 13 others, including three members of his immediate family; a cousin; two close friends, one of whom died; his family doctor; and three nurses, two physicians and one respiratory therapist at Mount Sinai. Sixty-nine Mount Sinai staff also were quarantined, and its ICU was closed to new patients.[292] SARS claimed the life of Mr. N on April 1, 2003.

This is the story of how difficult it was to detect SARS in the early days of the outbreak, and of the dangers posed by unrecognized patients. On two separate occasions, once when he was at the Grace, and a second time at Mount Sinai, experts acting to the best of their abilities and on the basis of all that was known about SARS at the time examined Mr. N and ruled he did not have it. This does not reflect poorly on the Grace or Mount Sinai. The Grace and Mount Sinai[293] did their best under trying circumstances, and their staffs worked with courage and dedication.

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[292] Mount Sinai Hospital, "Mount Sinai on the SARS Frontlines," Summer 2003, http://www.mtsinai.on.ca/Publications/YHRSummer2003/GoingsOn/SARS.htm

In hindsight, the experts would have benefited from taking a precautionary approach.[294] With the benefit of hindsight, the case of Mr. N points to the importance in the future of employing a precautionary approach when fighting a new disease like SARS that is not well understood, mimics the symptoms of known illnesses and is particularly dangerous if cases are not recognized and enter the health care system.

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[293] It is worth noting the important voluntary contributions made by Mount Sinai to containing the outbreak. Some of its highly respected experts, including Dr. Donald Low and Dr. Allison McGeer, led the fight against SARS. And, at that time when Ontario's laboratory resources were woefully inadequate, Mount Sinai helped to fill that gap. As the Naylor Report noted:

> With the provincial lab overwhelmed, some hospitals sent specimens directly to the National Microbiology Laboratory, bypassing the usual hierarchy of referral.
>
> The Hospital for Sick Children, Mount Sinai, and Sunnybrook and Women's had strong platforms in polymerase chain reaction technology—an elegant laboratory testing modality that identifies microorganisms by analyzing strands of their DNA or RNA. They became the de facto and unfunded referral centres for Toronto SARS testing.

[294] Mr. Justice Horace Krever has said:

> Where there is reasonable evidence of an impending threat to public health, it is inappropriate to require proof of causation beyond a reasonable doubt before taking steps to avert the threat. As an editorial in the *American Journal of Public Health* in May 1984 put it:
>
> > The incomplete state of our knowledge must not serve as an excuse for failure to take prudent action. Public health has never clung to the principle that complete knowledge about a potential health hazard is a pre-requisite for action. Quite the contrary, the historical record shows that public health's finest hours often occurred when vigorous preventative action preceded the crossing of every scientific "t" and the dotting of every epidemiological "i".

Address by the Honourable Horace Krever, International Joint Commission, Great Lakes Science Advisory Board Workshop, Methodologies for Community Health Assessment in Areas of Concern, Windsor, October 4, 2000.

Mr. N Is Admitted to the Grace

On Wednesday, March 19, 2003, one week after visiting the foot clinic, Mr. N began to develop what physicians thought was community-acquired pneumonia.[295] The next day he visited his family doctor. The physician looked for signs of fever or respiratory symptoms, but didn't find any. Mr. N had other underlying health problems which, at that time, were the focus of attention.

In the next few days, Mr. N got sicker. A cousin who visited him on the evening of Friday, March 21 recalled that Mr. N was quite ill and had a high fever. The cousin later became ill with SARS.

By Saturday morning, March 22nd, Mr. N's condition had worsened. His family doctor visited him at home, found that his health had declined considerably, and arranged for him to be admitted to the Grace. The following week, the family doctor felt ill and was eventually diagnosed as a suspect case.

On Sunday, March 23, 2003, Mr. N's condition continued to deteriorate. A family member recalled that he was very ill:

> When I went in to see him on Sunday morning, it was like he was a different person. He could not breathe: the nurse said that he had a very bad night.

As Mr. N became more gravely ill, doctors at the Grace decided he needed intensive care. The Grace intensive care unit was closed to new patients, so Mr. N would have to be transferred elsewhere.

CritiCall, the provincial agency that manages patient transfers,[296] was contacted and found an available bed at Mount Sinai's ICU. It put Mount Sinai's ICU into contact with the sending physician at the Grace. CritiCall also advised Mount Sinai of the SARS outbreak at the Grace.[297] Also at this time, infectious disease experts from Mount Sinai were at the Scarborough Grace Hospital helping with the investigation and response.

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[295] "Community-Acquired Pneumonia: Pneumonia caused by any organism found regularly outside the hospital; common organisms include Streptococcus pneumoniae, Haemophilus influenzae, and Mycoplasma, as opposed to hospital-acquired or nosocomical pneumonia." *Stedman's Medical Dictionary*, 28th ed. http://www.drugs.com/medical_dictionary.html

[296] "CritiCall is a 24-hour-a-day emergency referral service for physicians across the province of Ontario. CritiCall links hospitals and medical resources throughout Ontario, to provide strategic healthcare communications solutions anywhere, any time they're needed .... As a key provincial medical resource, CritiCall is a fast, efficient, and reliable tool for healthcare providers. We: Provide effective and efficient resources for all levels of care; Promote accessibility for a greater number of people, at reduced cost; Offer physicians increased efficiency of time-management; Allow governments to increase network efficiency; Provide enhanced disaster planning capabilities; Improve communications among emergency services and ambulances and between hospitals." Source: https://www.criticall.com/info/Default.shtml.

Transferring Mr. N to Mount Sinai

Because Mr. N came from the Grace, nurses at Mount Sinai were concerned he might have SARS.

One nurse who contracted SARS from Mr. N said:

> We were concerned that the patient had pneumonia and it was considered atypical community-acquired pneumonia. We were concerned that coming from a quarantine hospital, that even if he didn't have exposure, shouldn't we still maintain respiratory isolation and quarantine for him . . .

Before accepting Mr. N, Mount Sinai wanted to make sure he did not have SARS, and contacted the sending physician at the Grace, who said:

> … I remember getting a call back from him [the admitting physician at Mount Sinai] saying, You know, we really need someone else to look at this case.

One continuing problem during the outbreak was determining whether a patient had SARS or another disease with similar symptoms. Clinicians relied on the case definition, which, at this time, equired an epidemiological link, or epilink as it's often called, to reach a diagnosis. An epilink provided sufficient evidence of a cause-and-effect connection between a person with SARS symptoms and someone who might have infected them. Alternatively, it might provide sufficient evidence of a direct connection between a person with SARS symptoms and a jurisdiction or location where there were confirmed cases of SARS transmission.

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[297] An external review by infection control practitioner Carol Goldman, commissioned by Mount Sinai to examine how it handled the case, said:

> CritiCall called the MSH, ICU attending staff MD to request a transfer of a patient from SGH to MSH-ICU because of deteriorating respiratory status
>
> - CritiCall call taker made specific mention of SARS cases and the investigation occurring at SGH and the fact that the ICU was closed (necessitating transfer of patient)

Two physicians who treated SARS patients wrote:

> While the various case definitions caused some degree of confusion in the organizational response to SARS, front-line clinicians made the diagnosis of SARS based on the presence of three factors: fever, respiratory symptoms, and an epidemiologic link to someone else with SARS. The epidemiologic link was clearly the most important criteria and extensive public health resources were devoted to tracking down case contacts.

The epilink was often difficult to identify.

Dr. Donald Low said:

> We used the epilink. The problem was that, as the disease spread throughout Toronto, sometimes that epilink was not evident. It was only evident in hindsight when you pulled the story together. So if a person came into your emergency room complaining of fever or a headache or a muscle ache or a bit of a cough, but had no link whatsoever to SARS that you could discern, you sent that person home. In actual fact, that person may have happened to be sitting in the waiting room of a doctor's office next to a person who had SARS.[298]

The sending physician at the Grace asked an infection control expert from Mount Sinai who was at the Grace helping contain its outbreak to examine Mr. N. No evidence of an epilink was found. This was a critical element in concluding that Mr. N did not have SARS.

A study into the case of Mr. N published by the CDC said:

> Before transfer, SARS was excluded from the differential diagnosis because the patient had not traveled, had never left the emergency

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[298] Interview with Dr. Donald Low in Biosecurity and Bioterrorism: Biodefense Strategy, Practice, And Science Volume 2, No. 1, 2004.

> department of the referring hospital, and had only had a single recent outpatient visit to an area of the original hospital in which SARS had not been identified.[299]

An external review[300] commissioned by Mount Sinai to examine how it handled the case of Mr. N summarized the measures taken to rule out SARS before Mr. N was transferred from the Grace:

> - Discussion between sending and receiving medical staff about epidemiological links to SARS-MSH was advised no contact to SARS at SGH
>
> - Transfer was held until MSH could confer with MSH infection control personnel (who coincidentally were consulting infection control at SGH and intimately involved in the ongoing investigation) and who confirmed that there appeared to be no link[301]

On March 23rd, the third-floor foot clinic that Mr. N had visited on March 12 was not considered an epilink. This would change soon afterwards, as the sending physician at Scarborough Grace Hospital told the SARS Commission:

> We were being careful. We knew about the chiropody clinic. But we did not see how that was the link because I don't believe the 3D staff started getting sick until a day or two later. Had he shown up one day later, OK, chiropody, 3D [CCU], it's close enough, and so we couldn't see the connection. And we didn't know about [Mr. H] at that point. We had to dig out this information. Had we gotten the call that [Mr. H] was ill, he came from the Grace, then we would have said 3D CCU you are a problem now. It would have been raised to a level that we would have said there is an epi-link somewhere in here, we'll find it… Had we gotten that

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[299] Scales, Green, Chan et al. Illness in intensive-care staff after brief exposure to severe acute respiratory syndrome. *Emerging Infectious Diseases* 19,no. 10 (October 2003). http://www.cdc.gov/ncidod/EID/vol9no10/03-03-0525.htm. (Scales, Green, Chan et al., "Illness in intensive-care staff").

[300] In the aftermath of SARS, Mount Sinai commissioned Carol Goldman, an infection control practitioner to review the hospital's handling of this case. The Commission is grateful that Mount Sinai generously shared this frank and insightful document.

[301] Carol Goldman, "Infection Control, Critical Review Mount Sinai Hospital ICU," November 6, 2003 (Goldman, "Infection Control").

> call [about Mr. H] the minute they knew about it, Mr. N would not have gotten to Mount Sinai or would have gone under certain circumstances, special care.

The external review said that those who concluded that Mr. N did not have SARS did the best they could under the circumstances:

> The knowledge of the outbreak was known, and it seems that prudent steps were taken to determine if SARS was a diagnosis to consider. Attending staff in the ICU made careful inquiries from both [the Grace] critical care staff and those infection control/epidemiology personnel conducting the investigation. Based on their conclusions that no epidemiological link existed between this patient and any SARS patient at [the Grace], it was determined that this patient had [community-acquired pneumonia] not SARS, and isolation precautions were not indicated. I believe that at the time this would have been the only conclusion to make.[302]

Mr. N Arrives at Mount Sinai

Mr. N was admitted at Mount Sinai at 8:18 p.m. and was placed in ICU room 1803.[303] When he was wheeled into the ICU, he was placed next to where a nurse was sitting. Her face was on the same level as Mr. N's. She later came down with SARS.

She told the Commission:

> When the patient first came in I had the patient adjacent to the room … the patient arrived by ambulance without warning onto the unit so we didn't have a chance to mask.
>
> And the patient actually came in, was kind of wheeled in, like level to me, and I can basically turn around and there he was. I had no mask on. I had no idea at what time the patient was actually going to be arriving.

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[302] Goldman, "Infection Control."

[303] Goldman, "Infection Control."

> So I didn't have a chance to prepare. And neither did any of the other people on the unit ...

This nurse was not on duty during the balance of Mr. N's stay at Mount Sinai, and had no further exposure to him.

> And I didn't have any mask, I didn't have any gloves. So I don't really know for sure when exactly I contracted the virus. But that was my biggest, my most vulnerable time was at that time. Other times I had mask, gown and gloves when I was in the room.

The next day concern returned that Mr. N might have SARS. A medical article said:

> After about 14 hours in the ICU, clinical suspicion of SARS resulted in the use of isolation precautions.[304]

Because of the growing unease, experts from the infectious disease department reviewed the diagnosis of SARS, and Scarborough Grace Hospital was called to determine Mr. N's appointments prior to his getting ill and try to identify any epilinks.

According to the external review, the experts from the infectious disease department concluded:

- That no epidemiological link occurred with SARS cases at SGH, but recommended that confirmation should be made by interview with wife to confirm that patient did not visit ER between March 7-14

- Agrees with Dx [diagnosis] of CAP [community acquired pneumonia] in an immunocompromised host.[305]

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[304] Robert Maunder, Jonathan Hunter, Leslie Vincent et al. "The immediate psychological and occupational impact of the 2003 SARS outbreak in a teaching hospital." Canadian Medical Association Journal, April 16, 2003. www.cmaj.ca on Apr. 16, 2003

[305] Carol Goldman, "Infection Control."

Mr. N Is Intubated

Mr. N's condition deteriorated during the course of March 24th. One of the physicians who treated him said:

> … his respiratory status was progressively getting worse.

A nurse who had looked after Mr. N on the night of the 23rd recalled:

> Next night [I] came in looking at him and thinking this patient is very sick. Went into room, he looked very, very ill. I thought, this fellow needs to be intubated.

By the evening of March 24th his breathing had become so laboured that doctors decided he needed to be intubated, a procedure in which a tube is placed into the windpipe, "to open the airway to administer oxygen, medication, or anesthesia."[306]

About one-quarter of SARS patients had to be intubated. Intubations of SARS patients were inherently risky because the procedure could aerosolize the patient's respiratory secretions, thereby creating tiny droplets of moisture that can carry microorganisms.[307]

As noted earlier, on March 17th four health workers at the Grace who had intubated an unidentified SARS patient contracted the disease. No directives had been issued after the Scarborough Grace intubation by the Provincial Operations Centre alerting staff to the dangers of this procedure.

However, the risk of intubating SARS patients did not go unnoticed at the CDC. On March 20th, four days before Mr. N's intubation, it issued the following warning:

> Procedures that induce coughing can increase the likelihood of droplet

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[306] "An endotracheal intubation places a tube into the windpipe (trachea). This is done to open the airway to administer oxygen, medication, or anesthesia. It may also be done to remove blockages or to view the interior walls." Source: *Medline Plus Encyclopedia*, a service of the U.S. National Library of Medicine and the U.S. National Institutes of Health.

[307] "The process of creating very small droplets of moisture (droplet nuclei) that may carry microorganisms. The aerosolized droplets can be light enough to remain suspended in the air for short periods of time and facilitate inhalation of the microorganisms." MOHLTC, "Final Report of the Infection Control Standards Task Force: Non-Acute Institutional Settings," March 2004, p. 6

> nuclei being expelled into the air. These potentially aerosol-generating procedures include aerosolized medication treatments (e.g., albuterol), diagnostic sputum induction, bronchoscopy, airway suctioning, and endotracheal intubation. For this reason, healthcare personnel should ensure that patients have been evaluated for SARS before initiation of aerosol-generating procedures. Evaluation for SARS should be based on the most recent case definition for SARS.[308]

Even if the CDC's warning had been distributed to staff at Mount Sinai, it is not certain this would have made a difference. The health workers who intubated Mr. N at Mount Sinai did not think he had SARS. The CDC warning was based on recognizing SARS.

Late on the evening of March 24, 2003, a resident attempted to intubate Mr. N, but was unable to do so.

The resident recalled:

> I knew beforehand going in it would be very difficult and it was. So at that point, I knew I had to ask for help and I called an anesthetist in to help me. So a staff anesthetist and an anesthesia resident came up to assist me in securing the patient's airway.

The staff anesthetist was worried Mr. N might have SARS. He was told the infectious diseases consultation earlier that day had ruled out SARS.

The resident said:

> Even at that time, though, we did not think this patient had SARS. That's the thing actually. Even at that point, it was believed that he was a patient severely immunocompromised and just crashing with a community-acquired pneumonia. Even in my mind I remember and that, not clicking in that this patient truly had SARS.

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[308] CDC, "Infection control precautions for aerosol-generating procedures on patients who have Suspected Severe Acute Respiratory Syndrome (SARS)," March 20, 2003, 7:00 PM EST

The resident said that it's not unusual for severely ill elderly patients to get as sick as Mr. N was that night:

> Question: And was there any suspicion, did you have any suspicion that maybe he had SARS?
>
> Answer: He was an elderly patient and patients dealing with a community-acquired pneumonia can get very sick and that was my impression.

Five health workers were in the room during the intubation: the anesthetist, the medical resident, a postgraduate medical trainee, a nurse and a respiratory therapist. The anesthetist, the medical resident and the nurse got SARS. The anesthetist and the nurse wore gowns, gloves and surgical masks. The medical resident wore a gown, gloves and an N95 respirator, although he had not been fit-tested or trained in its use.

During the intubation of Mr. N:

> . . . the patient's respiratory secretions were splashed onto the uncovered cheek of one of the healthcare workers.[309]

A health worker who got SARS recalled:

> I remember at one time I got sprayed with secretions.

One health worker who got SARS said his face was very close to Mr. N's during the procedure:

> The patient was breathing, almost into my face. I was wearing the face mask, but I did not have goggles … this patient was in respiratory distress… and my face is not too far away from his, trying to put in a breathing tube.

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[309] Scales, Green, Chan et al. "Illness in intensive-care staff".

An Unexplained Transmission

Five of the six health workers who caught SARS at Mount Sinai, including the three who were in the room when Mr. N was intubated, had direct contact with him. The sixth health worker, however, was on the same floor as Mr. N but does not appear to have gone anywhere near either him or an earlier SARS patient who was admitted to Mount Sinai on March 13.

One nurse said:

> And there was another nurse. She didn't have any contact with the patient, she was on the other side of the unit. She didn't have any contact, direct contact, with either of the patients. We still don't know how she got it.

While no one knows for certain how this nurse got SARS, a medical study noted a possible link between this nurse and one of the physicians involved in intubating Mr. N.

The study said:

> SARS developed in one quarantined health care worker (a nurse) who had not entered the index patient's room; the disease did not occur in any other healthcare workers who had not touched or had close contact with the index patient. The nurse was present in the ICU for 18.75 h (two shifts) during the patient's admission. Of note, after the endotracheal intubation of the index patient, the physician who performed this procedure entered the room where the nurse was caring for another patient. Neither the nurse nor the physician recalled direct contact, and they were certain that the physician had changed gloves and gown before room entry. This nurse had no other epidemiologic risk to explain the development of SARS.[310]

The study also suggested a number of possible transmission routes, including airborne transmission:

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[310] Scales, Green, Chan et al. "Illness in intensive-care staff".

> In the second case, transmission could have occurred in a number of possible routes. The nurse may have come within sufficient range of the SARS patient to be exposed to large droplets. Recent reports indicate that the virus may survive for several hours on fomites or in body secretions (12) and raise the possibility of transmission by indirect contact with contaminated objects or of inadvertent carriage and spread by another healthcare worker. Fecal transmission is unlikely as the patient did not have a bowel movement during his stay. True airborne spread may also have occurred. Although evidence does not support this route of transmission for the SARS-associated coronavirus, existing literature suggests that other coronaviruses may be spread by an airborne route in certain circumstances.[311]

Mr. N Is Transferred to Toronto General Hospital

After the intubation, the nurses attended to Mr. N. One nurse told the Commission:

> … he was very, very nice. He helped us turn and he was very good. So I suctioned his mouth. I remember doing all that. Cleaned him. We cleaned his sheets because it's very messy after an intubation.

Late in the evening of March 24th, the possibility again arose that Mr. N might have SARS, and he was transferred to nearby Toronto General Hospital at about 4:30 a.m. on March 25. According to the external review, Mr. N's chart said he was transferred because "SARS precautions requiring."[312]

Nurses' notes on Mr. N's chart said:

> 2358hrs – waiting for transfer to a more secure isolation facility as SARS is being considered because of patient's contact at SGH.[313]

The decision to transfer Mr. N appears to have been prompted by the rising number of SARS cases at the Grace. The external review said:

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[311] Scales, Green, Chan et al. "Illness in intensive-care staff".

[312] Goldman, "Infection Control."

[313] Goldman, "Infection Control."

> Now infection control is concerned about the increasing number of people developing SARS at [the Grace] and therefore the decision is made to increase the management of the patient to full isolation with negative pressure isolation room.[314]

One senior hospital official told the Commission the suspicion that Mr. N might have SARS increased after the intubation:

> And there was no suspicion at the time he was intubated that he could have SARS. It was felt that he was compromised because of his transplant, and the reason he had pneumonia was, he was a very severely compromised patient.

A medical study said:

> Endotracheal intubation required fiber-optic placement. That the extent of the outbreak at the referring institution was larger than originally appreciated became apparent at this time; therefore, the patient was transferred to another facility for placement in negative pressure isolation for possible exposure to SARS.[315]

On the morning of March 25, after Mr. N was transferred to Toronto General, some of the Sunny brook nurses who cared for him had a sense of foreboding. One nurse was so concerned that before going home she called her husband to take special precautions and make sure their children did not come near her:

> So I told everybody, you bet, you watch, we're going to be quarantined. And I remember calling my husband in the wee hours of the morning to say, please have the kids out of the house; I don't want you near me because when I come home, I'm just going to take my clothes off, throw them out and shower because I think I've been exposed to SARS. And I had concerns for my family because I thought, I've been in there, cleaned him up after intubation.

She also said:

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[314] Goldman, "Infection Control."

[315] Scales, Green, Chan et al. "Illness in intensive-care staff."

> So when I came home, I sterilized myself in hot water and walked around the neighbourhood to clean out my lungs. I remember going for a walk for hours and hours, just trying to breathe in air … because I was afraid.

Another nurse who attended Mr. N the night of March 24and got SARS said she also had a bad feeling. "It played on my mind," she recalled. After an overnight shift, she often looked in on her elderly parents before going home. She called her father and said, "I have a bad feeling." She decided not to visit with them that day and went directly home. As we see time and again throughout the story of SARS, the intuition of front line staff proved to be right. In this case, the fears of the staff at Mount Sinai were realized, when they later learned that Mr. N had SARS.

One day later, on Wednesday, March 26, 2003, Mount Sinai told staff in a bulletin that an unidentified patient was under investigation as a possible SARS patient:

> Today we have identified that a patient who was transferred from Scarborough Grace to our ICU late Sunday evening March 23 and subsequently transferred out of MSH in the early morning of Tuesday March 25 is under investigation for possible exposure to SARS.[316]

One hospital official recalled:

> … the next day, the head of our ICU was quite concerned about the fact that someone was transferred from a hospital where all this was going on. We had a meeting with our senior administrators the next day and it was decided that we had to treat him as if he had SARS and we decided to send him about 75 health care workers who may have had contact with him in the ICU during those 31 hours so maybe that was Tuesday morning and 4 days later we admitted about 7 health care workers with fevers.

A medical study said:

> Once the risk for SARS was identified, all patients in the ICU were considered to have been potentially exposed. To prevent spread of SARS, we closed the ICU to admissions and discharges and implemented strict

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[316] Mount Sinai Hospital, "SARS Update," March 26, 2003.

> respiratory and contact precautions for all remaining patients. We quarantined 69 healthcare workers who were considered to be at high risk for developing SARS.
>
> On the basis of our understanding of disease transmission, we arbitrarily decided that persons at high risk included anyone who had entered the index patient's room or who had been in the ICU for >4 hours during the patient's 30.75-h stay.[317]

The case of Mr. N caused Mount Sinai to institute a number of other measures, including closing its ICU and cancelling most surgical procedures.

It is important to distinguish between systemic flaws and the skill and dedication of those who worked within a health system fettered by those flaws. In examining the case of Mr. N, the external review concluded:

> The old adage that hindsight is 20/20 must be made in this case.[318]

The experts who examined Mr. N and ruled out SARS on two separate occasions acted in good faith on the best information then available according to the standards that prevailed at the time. They did their best under difficult circumstances.

With the benefit of hindsight, the story of Mr. N points to the importance of the precautionary principle as a lesson for the future, particularly if faced with a new, little-known disease that is so problematic in its diagnosis. It illustrates that the precautionary principle was not as sufficiently integrated into the system that responded to SARS in Ontario as it was in Vancouver, and it demonstrates the consequences of this systemic flaw.

It also shows the importance for the future of employing a precautionary approach when fighting a new disease like SARS that is not well understood, shares the symptoms of known illnesses, and is very dangerous if cases are not recognized and enter the health care system.

It is better to be safe than sorry. Action to reduce risk should not await scientific certainty.

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317. Scales, Green, Chan et al. "Illness in intensive-care staff."
318. Goldman, "Infection Control."

“Send Units Down!”
The Fiasco at York Central Hospital

York Central Hospital[319] in suburban Toronto became the scene of a medical disaster and an emergency management fiasco during the early days of the SARS crisis.

The medical disaster had its roots in the March 16, 2003, transfer of a patient from Scarborough Grace, Mr. H, whose story is told earlier in the report. Mr. H arrived at the York Central Hospital's intensive care unit, but no one knew he was infected with SARS. He infected 15 other patients and staff at York Central, an outbreak that led to closure of the hospital on March 28 and to an emergency management situation that resembled a poorly directed paramilitary operation.[320]

The SARS outbreak at York Central Hospital was discussed during a conference call on March 28, 12 days after the infectious transfer, the day the hospital became aware that it had SARS cases. The hour-long conference call between the high-level group managing the SARS emergency for the province, hospital officials and representatives of York Region Public Health resulted in a manager of the Emergency Operations Centre calling 911 at the end of the meeting and asking local police to “send units down to close York Central Hospital.”

Inexplicably, hospital staff were not told of the closing before the police were on the way, nor were police given any details other than a request not to let anyone in or out of the hospital. The first the hospital staff knew about the directive to close was when they heard sirens[321] and saw flashing lights and police cars surrounding the hospital.

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[319] York Central Hospital is a community hospital in Richmond Hill, Ontario, in the Toronto area. It is a 419-bed facility with 219 acute care beds, 52 chronic care beds, 32 rehabilitation beds and 116 long-term care beds. More than 1,800 hospital staff, 300 physicians and 800 volunteers are affiliated with this institution.

[320] The patient contracted SARS in the Grace emergency ward on March 7 from unprotected exposure to Mr. T. The patient's wife, who visited him, was also admitted to York Central, on March 21, with shortness of breath and went to a nursing home for respite care on March 26, returning to York Central with persisting respiratory symptoms after her husband was diagnosed. She was immediately put into the hospital's SARS Assessment and Treatment Unit (SATU). See Hy A. Dwosh, Harry H.L. Hong, Douglas Austgarden, Stanley Herman and Richard Schabas, “Identification and containment of an outbreak of SARS in a community hospital,” *Canadian Medical Association Journal* 168 (2003): 1415–1420 (Identification and containment of an outbreak of SARS in a community hospital).

A York Central doctor recalled that he was in the hospital boardroom on the conference call about the imminent closing, when he heard sirens:

> We had this hospital board meeting with the ministry and they said "we are closing you down at 6 o'clock" . . . This was on the phone and we closed the doors and got security. They asked if we needed extra security and we said we do not know, and they asked if we needed the police to come and help and we said sure, and while we are having the teleconference we start to hear sirens and a half dozen cop cars show up and they blocked the entrances and they blocked people in and would not let anyone out and we have a shift change at 7:00 and you have 1,800 people working and 900 people trying to come in . . .[316]

Hospital vice-president Asmita Gillani recalled at the Commission's public hearings:

> [I] was being paged by my staff that at the front entrance we had police cars and we, the staff, were forbidden from leaving the hospital. In fact, we were then told that this hospital is closed and we were quite alarmed . . . We had no idea what it meant . . . We had to wait for Public Health to get there. We had to institute screening right away. We had to wait for thermometers; we couldn't discharge the staff. So from about 4:30 to 10 p.m. we were in a total state of halt. The shift from 7:30 in the morning could not go home until about 10 p.m.[322]

The shutdown and the arrival of police had a terrifying effect on staff, who had had no warning of this dramatic operation. One staff nurse interviewed by the Commission gave this account:

> I think it was March 28th, it was a Friday night, they locked the doors of the hospital, with all the nurses and everyone in it still. They didn't know what to do with us. They locked the doors and they said, the Ministry's

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[321] There is some doubt whether sirens were used at all. One officer recalled: "It is not believed that sirens were ever used in relation to this detail." Another officer recalled that he "was on patrol when call received . . . best recollection, did not activate lights or siren when proceeding to call . . . took responsibility for blocking north entrance to hospital parking lot with lights activated . . . under the circumstances, did not think it prudent to put lights or siren on."

[322] SARS Commission, Public Hearings, October 1, 2003.

> shut us down and nobody's to leave the hospital. Well, for three hours, the nurses sat there terrified, not knowing what to do, where to go, who to call. The kids had to be picked up from the babysitters and whatnot, it was a horrible, horrible night. Then it was discovered that it was a patient in the hospital with SARS.

The police were baffled. One officer told the Commission:

> At 6:25 p.m., upon arrival at York Central Hospital, I observed many people around the outside of the hospital. Some were panic-stricken, wanting to know what was going on. There were people wanting to visit people in the hospital. Our information was to close down the hospital, don't let people in or out . . . We attempted to find out what was going on inside to justify why we were there . . . Hospital staff provided security for the front door. We maintained our position and waited to confirm what was going on, what our role would be.
>
> The press began arriving. They were asking questions that I didn't have the answers for. The atmosphere outside of the hospital was almost circus-like . . . It was well into the night before someone came out to tell us the access routes.
>
> Not allowing traffic in or out. Besieged with questions. Actual security for the building was by their people. I kept trying to obtain further information on this incident, reasons [for the closure]. People wanted to know what was going on, why could they not get into the hospital . . . It was well into the night before they explained access doors and where they could and could not get in. It was so we would have information to provide to the general public . . . We were left hanging at the beginning. No information as to our role, who to assist, who was making decisions.

The medical disaster that triggered the closing started, as noted above, on March 16 when a patient with highly infectious, undetected SARS was transferred to York Central from Scarborough Grace, the epicentre of the first SARS outbreak. The 77-year-old patient, Mr. H, was not isolated, because no one at York Central suspected SARS. He had been admitted to Scarborough Grace for cardiac problems on March 7, sent home on March 10 and readmitted on March 13 before he was transferred to York Central Hospital. No one at York Central knew that Mr. H was linked to the index case at Scarborough Grace Hospital.

As the Chief of Staff Dr. Richard Schabas and Chief of Intensive Care Dr. Hy Dwosh noted in a medical article:

> At the time of transfer, it was not known that the patient had been exposed to the SARS virus at the referring institution, thus, no specific respiratory precautions were used.[323]

Over the next 12 days SARS spread to 15 people at the hospital.

York Central's story of SARS was presented in full at the Commission's public hearings.[324] Nothing in this report constitutes any finding of any kind against the hospital or anyone who worked there. As noted earlier in this report, it does, however, reflect a systemic problem that as late as March 28, York Central, had absolutely no knowledge of Mr. H's connection to theindex case and his SARS exposure.

The reason SARS went undetected for 12 days at York Central as it spread to patients and staff, as explained by hospital vice-president Asmita Gillani at the Commission public hearings, was that the hospital had no knowledge of where the patient had been or what his history was:

> Well, March 28th was a pivotal date for us because two of our staff members started showing symptoms that were consistent with SARS and we got very alarmed and when we dug a little deeper, they had been looking after the patient who had been transferred from Scarborough Grace.
>
> I want to point out that, at this point, we had absolutely no knowledge of where this patient had been or what his history was, but the fact that two of our staff members came down with some such illness, we got alarmed and we informed the POC [the Provincial Operations Centre] right away.[325]

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323. Identification and containment of an outbreak of SARS in a community hospital.
324. The hospital's story and presentation are set out in full in the transcript of Commission public hearings on September 30 and October 1, 2003, and in the hospital's slide presentation, including its febrile surveillance program, to which Dr. Schabas credits the prevention of further secondary transmission instituted after the hospital discovered the spread of SARS from Mr. H.
325. SARS Commission Public Hearings, October 1, 2003.

The day before the shutdown fiasco, York Central Chief of Staff Dr. Richard Schabas departed for Paris on a long-scheduled vacation. He was told of the hospital closing on arrival there and quarantined himself in the apartment he had rented in the French capital. He stayed in touch with developments in Toronto by telephone. On his return, he was critical of the handling of the crisis, saying the authorities overreacted to the outbreak:

> My concerns are, fundamentally, that we failed to take the measure of SARS. We failed to understand what it was about and we did that because we didn't put sufficient emphasis on data collection, data analysis and learning about the infection[326].

Dr. Schabas was especially critical of the closing of York Central and other hospitals and suggested that all patient transfers from Scarborough Grace Hospital should have stopped on March 14:[327]

> I can say that from the perspective particularly of York Central Hospital because even the simple expedient of putting a freeze on transfers from Scarborough Grace Hospital to other hospitals on March 14 would have saved York Central Hospital the tragedy that ensued there when a patient was transferred without any warning of the possibility of SARS on March 16.[328]

Control measures obviously were not in place for the March 28 shutdown of York Central when the emergency authorities, via the 911 emergency line, asked the police to shut down the hospital. The police response was immediate, as is appropriate when a 911 call is received. The York Region police acted quickly and there was no problem with their work. The police found themselves in a difficult situation. There was no directive from the hospital about what was to happen once police cruisers blocked the entry and exits. The emergency system took the sensible idea of extra security and cranked it out of all proportions.

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[326] SARS Commission Public Hearings, September 29, 2003.

[327] As noted earlier in this report, public health authorities and officials at Scarborough Grace Hospital did not know that on March 14, whatever illness had killed Mr. T and his mother and had sickened members of his family had spread and would continue to spread to other patients, visitors and health workers.

[328] SARS Commission Public Hearings, September 29, 2003.

As one police officer told the Commission:

> Immediate direction would have helped the police. It was a controlled environment. If they had of told us why we were there, what they wanted from us, it would have made it easier. A direct liaison with police would have been great.

This breakdown in communications between emergency authorities and health authorities shows why it is essential to make clear the lines of authority between the Chief Medical Officer of Health and the Director of Emergency Services as recommended in the SARS Commission's second interim report.

As for the decision to close York Central Hospital, public health authorities had just discovered that SARS had spread undetected at York Central for 12 days and had decided to close it to prevent further spread. This decision was not made lightly. As one participant involved in the decision to close the hospital later told the Commission:

> At the time, based on the science and the concerns at the time, we acted prudently to close hospital. A lot of important people were at the table making that decision . . . We didn't know how SARS transmitted. We had fundamental issues at the hospital re. infection control. We had a high school across [the] road and kids were coming and going from the York Central cafeteria.

But the command directive to the police took no apparent account of how it would actually be carried out. The command directive was issued without telling the hospital, without any apparent coordination and without any apparent thought to important things like dialysis patients who had to get into the hospital for their treatment or how to get incoming staff through the police barriers. Because of these basic flaws, the emergency management objective was not achieved. As a police official noted:

> It would appear that the police attended York Central Hospital with the intention of assisting them to secure the hospital from entry and to prevent people leaving. Neither objective was achieved. The police had no control over who left the premises and it would appear that members of staff were gaining entry to their workplaces and members of the public requiring dialysis were also afforded accommodations.

The Regional Emergency Operations Centre issued the command directive to police without giving them an effective contact number. The 911 call shows continued police attempts to find out who was in charge and to find someone at the hospital who knew what was going on, all in vain. The seven-page transcript of the 911 call from the Emergency Operations Centre can be read only with mounting disbelief that any emergency system could work so badly.

Dispatcher: Communications 9-1-1. Do you require police, fire or ambulance?

Caller: Police.

Dispatcher: Okay, you're calling from 17250 Yonge Street, the administration side of the building?

Caller: Yes, the Health Unit, EOC.

Dispatcher: Okay. What's the emergency there, sir?

Caller: To send units down to close York Central Hospital.

Dispatcher: Okay . . .

Caller: York Central Hospital has to be closed down, there's a health emergency right now.

Dispatcher: Okay, just bear with me one minute, and I'll get a call going, okay?

Caller: Okay.

Dispatcher: Are you the administrator?

Caller: Ahhh, for the administrator, [gives name].

Dispatcher: Okay, just one second . . . due to a health emergency?

Caller: Yes.

Dispatcher: No one is to leave or enter?

Caller: Correct. Until further notified [inaudible].

Dispatcher: The phone number I have coming up is [number provided]? Is that the correct number we can call back for more information, sir?

Caller: Yes. You can call through the duty officer at extension [extension provided].

Dispatcher: [repeats extension]?

Caller: Yes.

Dispatcher: And who's that person that's going to answer the phone, sir?

Caller: Just ask for [name provided].

Dispatcher: [name repeated]? Okay, I will put a call in, sir, and I'll have somebody attend.

Caller: Thank you.

Dispatcher: Thank you, sir.

Caller: Bye.

Dispatcher: Bye, bye.

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Next call, dispatcher to Regional Municipality of York:

Unknown: Health Operations Centre, [name deleted].

Dispatcher: Hi, it's York Regional Police calling you back. We got a phone call about closing down York Central Hospital?

Unknown: Hm hmm.

Dispatcher: Was it you I was just speaking with, sir?

Unknown: No.

Dispatcher: Okay, somebody from there just called. We want to know who our contact person is at York Central Hospital.

Unknown: That would be Frank Lussing [CEO of York Central Hospital]

Dispatcher: Okay, just one second . . . Frank Lussing [spells name].

Unknown: [spells name], I believe, hang on a sec, hold on one second?

Dispatcher: Yeah, yeah.

Unknown: [spells name].

Dispatcher: And where can he be reached?

Unknown: [number provided].

Dispatcher: Just one second. [number repeated].

Unknown: [number repeated].

Dispatcher: And his extension?

Unknown: Ah, there's no extension, that's a straight number.

Dispatcher: That's straight. And does this Frank know we're coming?

Unknown: Ahhh, know you're coming?

Dispatcher: Yeah, does Frank know that York Regional Police are on their way to close the hospital down? To stop everyone from leaving or coming in?

Unknown: I don't believe so. Hang on a sec, just let me . . . can you hold on one second?

Dispatcher: Yeah, I can.

[slight pause]

Unknown: Instructions are here that YRP [York Regional Police] are not to enter the building at this point.

Dispatcher: Yeah, we're not going to enter the building. We know we're going to stop people from going in and going out, but we want somebody from York Central Hospital to be on the other side of the door when we get there.

Unknown: [not speaking directly to dispatcher] They want somebody from York Central to be on the other side to meet them when they get there.

Dispatcher: That's right.'

Unknown: [not speaking directly to dispatcher] Who is the contact? Frank? [speaking to dispatcher again] Nobody can right now.

Dispatcher: Okay, so . . .

Unknown: So all they can basically do is just shut it down, but you can't contact anybody from within the hospital because it's quarantined.

Dispatcher: Okay, but we can call back to this number for more information.

Unknown: You can call that number and you should be able to reach him, but do not talk to the media.

Dispatcher: Oh no, obviously not, sir.

Unknown: You should be able to contact that number that I gave you, but you can't make any physical contacts with anybody there.

Dispatcher: Well no, we realize that, sir. We know that. We know we're going stop people from going in and going out, but we wanted somebody on the other side of the door who is also going to do the same thing.

Unknown: Sure. [inaudible] . . . he should be able to help you.

Dispatcher: Okay, that's what we're going to do. Okay, I'll give him a call then, sir.

Unknown: Okay. Thank you.

Dispatcher: Thank you. Bye, bye.

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Next call:

Marian: Frank Lussing's office, Marian speaking.

Dispatcher: Hi, it's York Regional Police calling.

Marian: Yes?

Dispatcher: May I speak with Frank please?

Marian: Umm, yes, is it something urgent?

Dispatcher: Well, the reason I'm calling is the Health Department just called us to shut down the hospital.

Marian: Okay, umm . . .

Dispatcher: And he's the contact person within the hospital.

Marian: Yes, okay, hold on a second . . .

Dispatcher: Yes.

Marian: Okay, hold on.

Dispatcher: Thank you.

[call on hold for approximately 30 seconds]

Unknown: [inaudible] speaking.

Dispatcher: Hi, it's York Regional Police calling.

Unknown: I'm the Chief Operating Officer here.

Dispatcher: Okay, we've been advised by [name provided] office to close the hospital down.

Unknown: Who is [name repeated]?

Dispatcher: She is the . . . administrative . . . administrator for Health Services with York Regional.

Unknown: Okay. We are on a conference call with the Medical Officer of Health for Ontario, Dr. D'Cunha . . .

Dispatcher: Yeah, I know who he is.

Unknown: And we're receiving instructions from him as we speak, so Frank and myself and our doctors are in on a conference call. We need to sort things out because we have a [inaudible] dialysis programme here, so they're giving us instructions.

Dispatcher: Okay.

Unknown: And then we might need your help.

Dispatcher: Okay, but my only problem is, I have police on the way to stop people from coming and going from the hospital. We have a command directive. We must attend and do this.

Unknown: I'm sure you have, but what you have to do . . .

Dispatcher: But we have to have somebody at the hospital on the other side of the door.

Unknown: Right.

Dispatcher. That's all we're asking for.

Unknown: Can you just understand that our own staff don't know anything about this yet? We are just fielding the calls from Public Health, and we need to instruct our staff. We don't want to cause any panic.

Dispatcher: So what is your suggestion then?

Unknown: So, can you give us like 10 minutes?

Dispatcher: We can't, ma'am. We have to act upon getting this order, okay? You know, 10 minutes could be detrimental. We do have [inaudible, both parties speaking at same time] to close down the hospital and not let anybody in or out of the facility.

Unknown: You mean our staff can't go home?

Dispatcher: We've been advised to not let anyone in or out of the facility, no one, ma'am.

Unknown: Okay, who am I speaking with?

Dispatcher: Okay, what I'm going to do is give you the person who gave me this information.

Unknown: Yeah.

Dispatcher: Okay, their phone number is [area code provided]

Unknown: [area code repeated].

Dispatcher: [first part of number provided].

Unknown: [first part of number repeated].

Dispatcher: [second part of number provided]

Unknown: [second part of number repeated]

Dispatcher: If you could ask for extension [extension provided].

Unknown: [extension repeated].

Dispatcher: And that is the office of [name deleted]?

Unknown: Okay.

Dispatcher: And she is the administrator for York Regional Health Services.

Unknown: Okay. And you are?

Dispatcher: I'm York Regional Police. My badge is [badge number provided]

Unknown: [badge number repeated].

Dispatcher: Yes, ma'am.

Unknown: And your name?

Dispatcher: [name provided], ma'am.

Unknown: [name repeated]?

Dispatcher: Yes. Just so you're aware, ma'am, we do have police officers outside of York Central.

Unknown: Okay.

Dispatcher: Okay?

Unknown: All right.

Dispatcher: Well, sorry for all of this going on.

Unknown: Yeah, no. I mean, we're, you know, in . . .

Dispatcher: Yeah, exactly, I can understand what you're going through.

Unknown: We want to cooperate as much as we can, okay?

Dispatcher: Absolutely, no problem.

Unknown: All right.

Dispatcher: I just wanted you to be forewarned that this was happening.

Unknown: Okay.

Dispatcher Okay?

Unknown: Thank you.

Dispatcher: You're welcome.

Unknown: Bye, bye.

Dispatcher: Bye, bye.

The transcript speaks for itself. The lack of anyone in charge of the emergency response, the failure to coordinate the efforts of the police and the hospital, the failure to provide the police with the information and direction they required, the failure even to tell the hospital that the police were on their way, all emerge clearly. It is difficult to conceive of a less coordinated emergency response. Surely there is a better way to close a hospital than to call 911 and issue the police command "send units down to close York Central Hospital" without any coordination and without even telling the hospital.

The problem is obvious. The emergency system issued a command directive to send police units to the hospital to close it down but did not put the hospital in touch with the police or tell the hospital or the police what to expect, did not make it clear to anyone what should happen when the police got there, and did not tell the police what they were to do or what was wanted from them. One police official, in a mastery of understatement, said this:

> Immediate direction would have helped the police . . . If they had told us why we were there, what they wanted from us, it would have made it easier. A direct liaison with police would have been great.

Another point, not so obvious, emerges from this fiasco: the legal basis for the power to stop and screen people leaving a place of infection. Ontario's laws on this point are weak and unclear. The police at York Central that night were properly sensitive to this legal weakness and confusion:

> We knew that we had provincial authority – *Trespass to Property Act* – the fact that it was a hospital – a public institution, and criminal authority, but we did not know the health authority. No knowledge, no understanding. We were there to assist . . .

It is time to fix this problem.

It is sensible to give officials a limited power to briefly stop for identification and screening anyone person leaving a place of infection, as at York Central on March 28, 2003. But the power to stop anyone for any purpose, however briefly, is in law the power to detain because if the person does not comply the only recourse is arrest. These powers, however good their purpose, require stringent safeguards and effective legal balances.

Unfortunately, the government has not yet addressed this problem, one of dozens in the antiquated *Health Promotion and Protection Act*, which the Commission analyzed in its second interim report with a recommendation that:

> The *Health Protection and Promotion Act* be amended to authorize the Chief Medical Officer of Health or a medical officer of health to order the temporary detention of anyone who there is reason to suspect is infected with an agent of a virulent disease, for the purposes of obtaining a judicial order authorizing the isolation, examination or treatment of the person, pursuant to s. 35 of the *Health Protection and Promotion Act*. The

> detained person must be brought before a justice as soon as possible and in any event within 24 hours. This power is to be backed up by the ultimate power of arrest with police assistance if necessary in the case of non-cooperation.

It is time for the government to respond to this recommendation.

This fiasco shows how vital it is to ensure that public health decisions like how to close a hospital are made by the Chief Medical Officer of Health and executed through a coordinated emergency system. The lines of authority between the Chief Medical Officer of Health and the director of emergencies, although improved since SARS, are still unclear and inadequate. The SARS Commission recommended that the lines of authority be clear, that the Chief Medical Officer of Health be clearly in charge with the emergency commissioner standing by to help with logistical backup.

In a public health emergency there is room for only one person in charge, and that person should be the Chief Medical Officer of Health. In a public health emergency the director of emergencies should be clearly subordinate to the Chief Medical Officer of Health.

The government has not yet acted on this recommendation. This leaves a dangerous gap in our public health emergency machinery.

Neither has the government acted on the recommendation to clarify the power to stop and screen anyone leaving a place of infection. These failures to act leave a dangerous gap in our protection against infectious disease.

"We jumped in a taxi": Emergency Declared

Introduction

By March 24, it was apparent that SARS had spread further than anyone had initially imagined. Public health and government officials worried about the number of people who might be incubating the virus and feared the worst was yet to come.

Ontario was on the edge of crisis, or, more accurately, already over the edge. On March 24th, Health Minister Tony Clement passed a minister's regulation making SARS a communicable and virulent disease under the *Health Protection and Promotion Act*. This legally required hospitals, clinics and other health care institutions to report SARS cases. It also gave Public Health power to make orders in respect of SARS cases, including quarantine orders.

By March 25, Toronto Public Health (TPH) had the names of approximately 5,000 patients or staff who were possible contacts of SARS. Public Health faced the daunting task of contact tracing to determine who had been exposed to SARS and who was ill. A Toronto Public Health chronology of events, prepared after the SARS outbreak, described the situation at that time:

> The case load is increasing by eight to 10 patients per day. Local area hospitals are reporting patients in their emergency rooms with SARS symptoms. Many patients are health care workers from SGH [Scarborough Grace Hospital].
>
> TPH urges the provincial government to declare a Public Health Emergency given that SARS has now expanded beyond the boundaries of Toronto. TPH urges the implementation of severe control measures.[329]

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[329] Toronto Public Health Chronology, SARS I.

Young Takes the Initiative

It was on the initiative of Dr. Jim Young, then the Commissioner of Public Safety and Security, that Ontario declared the emergency. From this declaration flowed the jerry-built command structure and the stern measures that ultimately stopped SARS even without preparation and without proper systems. The road was very bumpy. Bad things happened that should never have happened, and the second outbreak was an unmitigated disaster. While Ontario's response was seriously flawed from lack of systems and preparation, it did in the end stop SARS. The wonder is not that it worked badly, but that it worked at all. Starting with nothing, in the face of a deadly new disease, an invisible enemy for which there was no diagnostic test and no knowledge of how it spread, this jerry-built apparatus somehow did stop SARS.[330]

One of Dr. Young's colleagues described for the Commission how the emergency came to be declared. Dr. Young was monitoring the situation through his network in the medical community and with Toronto Public Health. Both he and Toronto Public Health officials were concerned about how far the disease had spread and what was to come as more and more cases were identified. He concluded that there were "a lot of concerns and thought this may be a situation where it's time for a provincial emergency to be declared."

The official described what happened next:

> So then we jumped in a taxi and drove from here up to the health ministry, where [the then Chief Medical Officer of Health] Colin D'Cunha's office was, at Yonge and Finch.

Dr. D'Cunha agreed with Dr. Young that an emergency should be declared. Dr. Young, wasting no time on bureaucratic niceties or political manoeuvres, then went straight to the Minister of Health, the Honourable Tony Clement, and his Deputy, Phil Hassen:

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[330] In the beginning, nothing at all was known about SARS. It was a disease with no diagnostic criteria, symptoms uncertain, clinical course unknown, incubation period unknown, duration of infectivity unknown, virulence of infectivity unknown, method of transmission uncertain, means to prevent spread uncertain, effectiveness of protective measures unknown, attack rate unknown, death rate unknown, infectious agent unknown, origin unknown, no treatment, no vaccine, no prophylaxis, long-term effect unknown. As time went on, more became known, but most of SARS was a fight against an invisible and unknown enemy.

> So then we jumped in Colin's [Dr. D'Cunha's] car and came back downtown and went to see Tony Clement and the health deputy, Phil Hassen, and said, this is what we have in mind. And they agreed.

Dr. Young, having secured approval from the Minister and Ministry of Health, then raised the matter immediately with the Premier's Chief of Staff, Steve Pengelly, and then spoke to Premier Ernie Eves:

> He then spoke to Eves who was out in Brampton, I think, and Eves agreed.

Paperwork was done and faxed to the premier in Brampton.

> The paperwork was done up here, we faxed it over to the premier's office, they faxed it out to Brampton, he signed it. It was all done in about three and a half hours.

This aspect of SARS worked well. The emergency declaration was quick and decisive without miscommunication or turf wars. It reflected good communication, good cooperation between government departments and timely, decisive action at the public service and political levels. To bring on board within three and a half hours the Ministry of Health and the Deputy Minister of Health and the Chief Medical Officer of Health, plus the political commitment of the Minister of Health and the Premier, was a remarkable achievement that reflects well on everyone involved.

It is a tribute to Dr. Young, Premier Eves, and Minister Clement that the declaration of emergency necessary to cope with SARS was made in such a timely fashion with no bureaucratic or political delay. It is a particular tribute to the Premier and Minister of Health that they acted immediately on the professional advice of Dr. Young without thought to political considerations.

The declaration resulted from good cooperation and mutual trust between senior public servants like Dr. Young and political leaders like Mr. Clement and Mr. Eves and from a good division of political and public service roles. The Premier and the Minister of Health, without involving the political apparatus associated with major government decisions, accepted from Dr. Young politically independent public service advice to declare the emergency. The Premier and the Minister then provided public and political leadership to back up the advice given to them by the permanent nonpolitical public servants.

Part of this success had to do with the unique role of Dr. Young. As Chief Coroner, he was well respected throughout the medical and hospital community. This medical respect provided the credibility vital for a public health emergency manager. His emergency management credibility came from his track record during a number of emergencies, including the 1998 ice storm, and from his public safety achievements in working with coroners, forensic laboratories and police services.

Emergency managers cannot simply give orders. They have to secure the cooperation and support of many people over whom they have no authority: their political masters, other levels of government, independent organizations like hospitals, medical associations, nurses' unions. This is even more so in a public health crisis like SARS. Independent professionals like doctors and nurses and independent organizations like Ontario's hospitals do not respond well to military or police-like leadership. The essence of a public health emergency manager is not so much the ability to give the right orders as the ability to bring people on side and secure cooperation from those whose trust and support is vital.

It was a fortunate that someone with Dr. Young's unique skills happened to be the Director of Emergency Management when SARS struck Ontario. His unusual combination of medical and emergency expertise turned out to be tailor-made for the SARS crisis. But effective emergency management cannot depend on the happy accident that a manager with unique skills and credibility happens to be in charge when disaster strikes.

Because it is unlikely that the next public health crisis will see anyone with Dr. Young's unique skills in the emergency seat, it is all the more important to ensure the right structure and lines of authority, especially the paramountcy of the Chief Medical Officer of Health. Emergency management requires not only the right person in charge but also the right support systems and machinery. Above all it requires clear lines of authority and a clear understanding of who is in charge.

Unfortunately, this was not the case during SARS. The system of divided authority between Dr. Young and Dr. D'Cunha did not always work well. It was sometimes unclear who was in charge. This created serious problems noted in the Commission's first interim report.

Although the lines of authority will be somewhat more clear in the next public health emergency, important work remains to fix the problem of who is in charge. It must be clear that in any medical emergency, the person in charge is the Chief Medical Officer of Health, to whom everyone else, including the Director of Emergency

Management, should defer.

The government, as recommended by the Commission, has given the Chief Medical Officer of Health a measure of independent authority to ensure that medical decisions are insulated from political considerations. The government, however, has not yet implemented the Commission's further recommendation to clarify the roles of the Chief Medical Officer of Health and of the Director of Emergency Management and to ensure that the Chief Medical Officer of Health is in charge. It is essential that medical decisions be made by the Chief Medical Officer of Health and essential that the Emergency Management Director and the emergency management apparatus are there to assist but do not elbow their way into decisions on infectious outbreak management. To leave this recommendation unimplemented is to invite in the next outbreak a repetition of the problems that hampered Ontario's response to SARS.

Grim Situation

The Naylor Report described the grim picture of growing cases before the emergency was declared:

> By March 25th, 2003, Health Canada was reporting 19 cases of SARS in Canada – 18 in Ontario and the single case in Vancouver. But 48 patients with a presumptive diagnosis of SARS had in fact been admitted to hospital by the end of that day. Many more individuals were starting to feel symptoms, and would subsequently be identified as SARS. Epidemic curves later showed that this period was the peak of the outbreak. On March 19, nine Canadians developed "probable" SARS, the highest single-day total. Taking "suspect" and "probable" cases together, March 25 to 27 are the highest three-day period in the outbreak.[331]

Dr. Young often used a forest-fire analogy to describe going into battle against SARS:

> You have to get ahead of the fire so you fly over it and figure out how big it is, where it's going and how fast, and you build barriers in the right places to stop it. After SARS was identified and we learned something about it, we realized that the people who were sick had been infected more than a week before, so the picture we had was already 10 days old.

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[331] Naylor Report, p. 27-28.

> That's when we asked the Premier to sign a Declaration of Emergency.[332]

The April 2-3 minutes of the Science Committee reveal the seriousness of the situation and the need for a strong centralized response:

> JY detailed past events – lack of recognition of the severity of the outbreak for some time, local response measures inadequate initially, lack of epidemiology to provide the science for the best decision-making, lack of coordinated effort provincially and federally with the city until a few days ago. POC [the Provincial Operations Centre] opened one week ago and MOH [the Ministry of Health] now has taken the lead. Shortly after a provincial health emergency was called[333]. .

When Premier Eves signed the emergency order on March 26th, it was the first declaration of a public health emergency in the history of Ontario. The declaration was done pursuant to the authority granted to the Premier under the *Emergency Management Act.*[334] Under the *Act*, the declaration of emergency gave the Premier power to direct and control local governments and facilities. It gave government officials the power to direct hospitals and other health care providers.[335]

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[332] *Getting Ahead of the Fire*, http://www.networkedgovernment.ca/AheadoftheFireBain

[333] April 2–3Minutes of the Ontario Scientific Advisory Committee, 2003.

[334] Section 7. (1) of the *Emergency Management Act* said:

> Declaration of emergency
>
> (1) The Premier of Ontario may declare that an emergency exists throughout Ontario or in any part thereof and may take such action and make such orders as he or she considers necessary and are not contrary to law to implement the emergency plans formulated under section 6 or 8 and to protect property and the health, safety and welfare of the inhabitants of the emergency area. R.S.O. 1990, c. E.9, s. 7 (1).

[335] See sections 7 (2), (3), (4) and (5) of the *Act*:

> Power of Premier
>
> (2) For the purposes of subsection (1), the Premier of Ontario may exercise any power or perform any duty conferred upon a minister of the Crown or a Crown employee by or under an Act of the Legislature. R.S.O. 1990, c. E.9, s. 7 (2).
>
> Emergency powers

Premier Eves recalled for the Commission the reasons why he decided to accede to Minister Clement's advice and declare the provincial emergency:

> I can't remember the exact words but the message communicated to me was that we would probably want to do this, because we'd want to prevent it from spreading throughout the community and that we would be better to err on the side of caution as opposed to the other way, and so we responded.

When asked if he would make the same decision to declare the provincial emergency, Minister Clement said:

> Question: Again, in hindsight, would this kind of situation necessarily have to be a provincial emergency. Would you declare it again or could you see a way of managing it outside of that, that particular box and all that comes with that?
>
> Mr. Clement: Well, it's a difficult question to answer because in hindsight there were 44 deaths and a lot of very sick people, but remember what we knew at the time, which was not a heck of a lot. This thing could have been airborne, it

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(3) Where a declaration is made under subsection (1) and the emergency area or any part thereof is within the jurisdiction of a municipality, the Premier of Ontario may, where he or she considers it necessary, direct and control the administration, facilities and equipment of the municipality to ensure the provision of necessary services in the emergency area, and, without restricting the generality of the foregoing, the exercise by the municipality of its powers and duties in the emergency area, whether under an emergency plan or otherwise, is subject to the direction and control of the Premier. R.S.O. 1990, c. E.9, s. 7 (3).

Assistance

(4) The Premier of Ontario may require any municipality to provide such assistance as he or she considers necessary to an emergency area or any part thereof that is not within the jurisdiction of the municipality, and may direct and control the provision of such assistance, and the Lieutenant Governor in Council may authorize the payment of the cost thereof out of the Consolidated Revenue Fund. R.S.O. 1990, c. E.9, s. 7 (4).

Premier may designate minister

(5) Where the Premier of Ontario makes a declaration under subsection (1), he or she may designate a minister of the Crown to exercise the powers conferred on the Premier by subsections (1), (2), (3) and (4). R.S.O. 1990, c. E.9, s. 7 (5).

> could have been spread by air as far as we knew, and so based on the information that we had at the time, it was the right thing to do.

As Minister Clement noted, the decision to declare or not to declare a provincial emergency is a difficult one.

Experts and public health officials truly had no idea of the actual magnitude of the outbreak. When the provincial emergency was declared, the outbreak was rapidly spinning out of control as the number of contacts grew in leaps and bounds and the number of ill continued to climb.

It also worth noting that there was no alternative to a provincial emergency. The Chief Medical Officer of Health and local medical officers of health lacked the power to manage the outbreak. As noted in the Commission's second interim report, their power was limited to section 22 of the *Health Protection and Promotion Act*, which dealt primarily with orders against individuals.

The Commission observed that without strong day-to-day powers, the only recourse for public health officials in times of outbreak may be the greater extraordinary powers that come with the declaration of an emergency. Even with greater day-to-day powers, a declaration of a provincial emergency in a public health crisis might still be warranted, as it was in SARS. With stronger day-to-day powers, a lesser crisis could be managed without a declaration of emergency. Stronger day-to-day powers give the government more flexibility and more choices for a graduated response than the present all-or-nothing emergency system.

The Code Orange Order

Once the provincial emergency was declared, the Ministry of Health and Long-Term Care ordered that all hospitals in the Greater Toronto Area[336] and Simcoe County[337] activate their Code Orange emergency plan. The March 29 directive to all GTA/Simcoe County acute care hospitals provided as follows:

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[336] The Greater Toronto Area was defined as including "geographic area of jurisdiction of the City of Toronto and the four surrounding regional municipalities of Durham, Halton, Peel and York." (Directives to GTA/Simcoe County Acute Care Hospitals, March 29, 2003).

[337] Simcoe County included the City of Barrie and surrounding county (Directives to GTA /Simcoe County Acute Care Hospitals, March 29, 2003).

> In order to contain the spread of SARS (severe acute respiratory syndrome) the Ontario Ministry of Health and Long-Term Care advises that all hospitals in the GTA and Simcoe county must undertake the following procedures **effective immediately**:
>
> 1. Initiate full **CODE ORANGE** emergency response plans.[338]

Code Orange, the external disaster code, meant that hospital disaster plans kicked in. Visitors were restricted, non-essential visits by hospital staff were suspended, visits by volunteers were suspended and overall access to hospitals was restricted. Elective surgeries were suspended as hospitals operated essential services only.[339]

The March 29 directive required that hospitals establish isolation units for potential SARS cases, establish around-the-clock infection control coverage and implement the use of personal protective equipment for staff, including the use of fitted N95 respirators, an issue discussed in the Aftermath section of this report. Patient transfers between hospitals were also restricted: they had to be recommended by the infection control practitioner, approved by the Provincial Operations Centre and managed by the infection control practitioner.[340]

The province-wide Code Orange paralyzed the health care system. On April 1, in a directive issued to all acute care facilities, hospitals outside the GTA or Simcoe County were to "be prepared to implement Code Orange if directed by the Commissioner of Public Security and the Commissioner of Public Health." Although this did not officially put hospitals outside the GTA and Simcoe County on Code Orange status, the directives that followed in the document were directed to "all acute care facilities." Those directives so closely resembled the Code Orange that it was, practically speaking, the same thing.

Some argued that broadening Code Orange beyond the GTA was unnecessary and problematic:

> The issuing of the Code Orange directive at the end of March spun the health care system into a province-wide shutdown mode. It was quite clear to all involved that this was a Greater Toronto Area-based issue.

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[338] Directives to all GTA/Simcoe County Acute Care Hospitals, March 29, 2003.

[339] Ministry of Health and Long-Term Care Fact Sheet, March 2003.

[340] Directives to all GTA/Simcoe County Acute Care Hospitals, March 29, 2003.

> But although heightened vigilance would have been more than adequate for outside the GTA, a province-wide directive was issued, with no consideration of patient access or continuity of care.

But government officials pointed out that the need to stay ahead of the invisible outbreak required very strong initial measures. One government official described the need for a strong response:

> The decision was made that we needed to invoke measures and in order to do so and get ahead. My belief was we needed very bold steps. We had to do much more vigorous things than anyone thought we needed to do in order to jump ahead. That meant closing the system down for period of time while we figure out a way to safely transfer, while we educate people as using SARS as a diagnosis of exclusion. Only way to do that was to stop elective surgery, limit movement, etc. For all we knew when declared emergency SARS could have been in every hospital in Ontario. Turned out it was in five to six. We had to wait a week to 10 days to wait to see where it was. We did put patients at risk and we knew that. It was the lesser of two evils. If we waited we could have ended up one by one with each hospital down. We knew it was infecting large numbers of health care workers at that point as well. We also know that we close office around Christmas every year and we manage quite well because it suits us at that time so there was a buffer in the system.

One of the problems with Code Orange was the confusion over what it meant and to whom it applied. On April 3, the Ministry of Health and Long-Term Care had to issue a press release to clarify the previously issued directives:

> Toronto – Today officials from the Ontario Ministry of Health and Long-Term Care clarified SARS (Severe Acute Respiratory Syndrome) directives for all hospitals outside the GTA.
>
> Effective immediately, hospitals outside the GTA are to reinstate all surgical services, including elective, urgent and emergent surgery. To the extent possible, all out-patient clinics are to reopen, following both universal infection control precautions and SARS screening tool protocol.[341]

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[341] "SARS Clarification: Hospitals outside GTA should continue elective services," Ontario media notice, April 3, 2003.

In hindsight, many in the hospital system question whether Code Orange was appropriate for infectious disease outbreaks. In a thoughtful submission, the Ontario Medical Association made the following observations:

> The move to "code orange" was a critical juncture in the fight against SARS; however, the resultant impact on services was large – what were the pros and cons of this approach, are there better models that could be used in the future?
>
> Pro: Use of code orange was a useful tool to raise awareness in the hospital sector of the emergent and serious nature of this outbreak. It necessitates a comprehensive response and got attention of hospitals; it is, however, very drastic, very resource intensive and does not specifically address the needs to respond to an infectious disease outbreak. Need to develop outbreak specific code that can be used in hospitals to respond effectively to a large-scale infectious disease outbreak in their community.
>
> Con: We really need an outbreak specific "code orange" that covers the actions surrounding an outbreak.

Whether Code Orange was justified and appropriate, no one can dispute that it came at a high cost for many who were ill and for many whose family and friends were ill. Their stories will be told later in the report.

One thing is clear: experts and government officials never intended the Code Orange status to last long. Minutes of the April 2, 2003, Epi and Science Group Committee included a debate as to when the Code Orange status would be lifted in the GTA. On April 3, the Science Committee recommended that hospitals be considered for lifting of the Code Orange status on an individual basis, provided they have the following in place:

> Screening using the SARS assessment tool as per the Acute Care Directives;
>
> No evidence of transmission within the hospital under consideration OR spread by that hospital to another facility for the ten day period following identification of the last SARS case;
>
> Effective on-site infection control (i.e., minimum of 1 FTE trained infection control practitioner per 250 beds as per current CDC guidelines)

> No admission of known suspect or probable SARS cases and immediate transfer of newly identified cases to a designated SARS hospital.[342]

But the lifting of the Code Orange status depended on the identification of SARS hospitals. As early as April 3, the Science Committee noted that "the establishment of SARS hospital(s) is critical in minimizing transmission in the institutional setting. All patients with probable SARS who require admission should be sent to the designated SARS hospitals." This remained a roadblock for the lifting of Code Orange. As the Science Committee noted in its April 4 minutes:

> As stated yesterday, this [Code Orange status] is posing major hardship from the hospitals. The key impediment to lifting the Code Orange is the SARS hospital. However, we still must not limit SARS cases comparing into many hospitals. Wording was suggested to not specify a SARS hospital but to limit the cases going to numerous hospitals, however, it was emphasized that outbreak principles must be adhered. The document [the Draft Recommendation on Conditions for Lifting the Code Orange Status] was redrafted and sent to POC Executive at 1100[343].

The designation of "SARS hospitals" did not occur until the second outbreak. On May 27, government officials announced that the establishment of four SARS Alliance hospitals. More will be said about this later in the report.

The Code Orange status was not revoked until May 14.

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[342] April 3, 2003, Minutes of the Ontario Scientific Advisory Committee.

[343] April 4, 2003, Minutes of the Ontario Scientific Advisory Committee.

SARS and Bukas Loob Sa Diyos (BLD)

Introduction

Easter of 2003 brought fear to Toronto with the news that SARS had spread beyond health facilities and into the community. Community spread was the ultimate nightmare, and when SARS penetrated an extended family and a religious group called BLD, Toronto was in crisis.

Until Easter, SARS appeared to be contained in hospitals and the immediate households of patients and health workers. The Easter bombshell raised the biggest question yet. Could the community spread be stopped? If so, there was a good chance that SARS could be contained. If not, the unspeakable disaster loomed, an uncontrollable epidemic.

Toronto Public Health responded quickly and strongly, with stern quarantine and clear public notifications. The religious community cooperated magnificently. The community spread was stopped in its tracks. This is the story of how Easter brought us to the edge of disaster and how we pulled ourselves back.

As one public health expert who worked at the Ministry of Health during SARS told the Commission:

> What I saw scared me. I actually was afraid that we'd lost SARS. I thought it was gone into the community . . . I thought it was going to take a superhuman effort to actually stop it.

A doctor who worked on the science committee formed by the province to help combat the outbreak told the Commission:

> I can tell you personally that the weekend prior to Easter weekend and Passover was very, very stressful for all of us in the science committee and in operations, trying to deal with what we perceived was the beginning of

> a community-wide outbreak and . . . the religious gatherings that were going to be taking place over the next week.

The SARS crisis at Easter 2003 involved the Roman Catholic prayer group Bukas Loob Sa Diyos Covenant Community (BLD). Some SARS transmissions were made through the group, but misconceptions and inaccurate reports exaggerated the group's role in the outbreak. Many people associated with that SARS cluster had no connection to BLD.

On April 12, the Saturday before Easter week, Dr. Sheela Basrur, then Medical Officer of Health for Toronto, issued an urgent message to Toronto hospital emergency departments advising them to be on the lookout for BLD members with SARS symptoms. This was based on an April 9 discovery by Toronto Public Health that two BLD members had SARS and on concern that there had been other contacts. "Members of this group may present at hospital emergency departments or SARS assessment clinics with no obvious link to a known SARS case," said the alert.

This alert said all members of the group had been placed under "mandatory isolation (i.e. isolation)" by Toronto Public Health, a difficult decision because many BLD members were Filipino and there was legitimate concern that quarantine of one ethnic group would lead to stigmatization. The large-scale quarantine was also bound to increase public fear, which was already heightened.

Fear of transmission at religious gatherings spilled beyond the BLD group and into larger religious communities. Early in Easter week the Roman Catholic Archdiocese of Toronto, after receiving a call from the Minister of Health, asked all parishes to suspend the practices of taking Communion from the chalice, kissing the crucifix on Good Friday and extending salutations of peace through handshakes. Some other Christian denominations did likewise.

As Bishop John Boissonneau said during an Easter week news conference:

> Some people may feel a stress or tension between what they would regard is their religious duty and their public health duty.... Let me tell you: their public health duty is their religious duty. They're responsible before their God and within their community to safeguard the common good.[344]

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[344] The Canadian Press, April 15, 2003.

Easter service attendance fell off. Those who did attend avoided some Communion practices, the holy water and physical exchanges with fellow parishioners. Nervousness was felt in churches where sneezing and coughing were present, as it almost always is in large gatherings. Some churchgoers carried anti-bacterial lotions and used them after having contact with prayer books, pews and Communion wafers.

The Easter crisis had international ramifications. One person from Pennsylvania was infected with SARS while attending a Toronto BLD retreat and Mass in late March. A nurse's aide from Toronto carried the disease to the Philippines, where she infected her parents, among others. She had no known BLD ties but contracted the disease while helping a friend's mother, who was infected during a visit to the Lapsley Family Doctors' Clinic,[345] which had a BLD connection.

Concern about the spread of SARS in BLD resulted in the World Health Organization and the U.S. Centers for Disease Control and Prevention adding Toronto to their lists of SARS affected areas. Toronto became known as a place to avoid and the tourism industry suffered losses estimated into the hundreds of millions of dollars.

The worst suffering was personal. Dr. Basrur noted the personal suffering in an article written post-SARS in collaboration with colleagues Dr. Bonnie Henry and Dr. Barbara Yaffe:

> Individuals and families affected by SARS faced multiple complex issues, including physical illness, psychological stress, financial hardship and social stigma.[346]

The Background of BLD

Bukas Loob Sa Diyos, a Filipino name meaning "Open in Spirit to God," is a Catholic prayer group. It was founded in Manila, Philippines, in 1983 and has spread throughout the world. It came to North America in the early 1990s when a small group began to meet in Toronto to pray together. Since then the movement has grown to thousands of members in 20 cities in Canada and the United States.

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[345] The story of the Lapsley clinic is told later in the report.

[346] S. Basrur, B. Henry and B. Yaffee, "SARS: A local public health perspective," *Canadian Journal of Public Health* (January/February, 2004).

The Catholic Church sanctions BLD, and Toronto BLD is an active member of Archdiocese of Toronto Charismatic Renewal (ATCR), an archdiocesan umbrella organization of charismatic prayer groups. BLD Toronto usually meets on Fridays for prayer and Bible study. They also have retreats and workshops to promote spiritual growth and strengthen the family. Members also do apostolate work such as visiting the sick and elderly and volunteering with Toronto's Out of the Cold program.[347]

A BLD member caught SARS while accompanying his father to a Scarborough hospital on March 16. The son had contact with some BLD friends at a social event on March 23 and later there was more exposure through a BLD retreat on March 28-29 and a funeral home visitation for the father, who died April 1. No one knew of the SARS exposure at the time.

The so-called[348] BLD SARS cluster involved 31 persons who were listed as probable or suspected victims. Fourteen of these were in the family of the father who died, but only one member of that family belonged to BLD. Another 14 were BLD members from eight different families and the other three were nurses or doctors. Not all the cases resulted from BLD activity, and it is somewhat misleading to tag the cluster with the BLD name. Twelve of the 31 BLD cluster cases actually came from exposure to the father while he was in hospital.

In all, 819 people in the Toronto area were quarantined because of the BLD cluster. Overall, 33,535 people were quarantined in Toronto and York and Peel regions during SARS.[349]

The cluster was a small part of a larger outbreak in Canada, which had more SARS cases than any other country outside Asia. By August 2003 there had been a total of 375 probable and suspected cases, including 44 deaths. The majority of cases and all the deaths were in the Greater Toronto Area.[350] The infectious phase of the Canadian outbreak ended in mid-June 2003.[351]

The so-called BLD cluster had significance much greater than its size. First, as already noted, it marked the first spread of SARS beyond hospitals or family contact. Public health officials worried that the BLD cluster meant that SARS had escaped into the open community and would be very difficult to contain. As Dr. Don Low said:

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[347] From notes provided by the BLD and www.bldworld.org.

[348] So-called because some of the cluster were not BLD members but only contacts of BLD members.

[349] Figures compiled by Toronto Public Health.

[350] Naylor Report.

[351] Health Canada http://www.hc-sg.ca/pphb-dgspsp/sars-sras/cn-cc/numbers.html.

> The frustrating thing is that we have seen this week something that we hoped would not happen.... We have seen this disease go into the community. . . . We're in a new phase of the illness... We're into the community phase and that has to be aggressively controlled. But it's where we have far less control than we did in a hospital setting.[352]

Second, the cluster raised significant issues such as stigmatization of people connected through religious and ethnic associations, how Public Health should communicate potential risks to the public, and the pros and cons of quarantine.

It also played a significant role in the WHO's April 23, 2003, decision to issue a travel advisory for Toronto, a decision that had devastating economic consequences. The advisory was lifted after 10 days. The WHO cited the export of SARS cases to Pennsylvania and the Philippines as one reason for the advisory. The Pennsylvania and Philippines cases had ties to the BLD cluster.

How the Cluster Developed

As noted above, one of the earliest SARS cases involved the wife of a patient at Scarborough Grace Hospital. This woman, Mrs. M, who also was not feeling well, sat in the emergency room waiting area when her husband (Mr. M, whose story is told earlier in this report) was brought in on March 16. She was infected with SARS at this time, having contracted it from her husband, who was exposed to SARS while in the emergency department on March 7th with the index case Mr. T. While Mrs. M was in the emergency department on March 16, so were some members of a Filipino family, a man and his wife who had brought in his 82-year-old father, Mr. S. The elderly man was a diabetic with a gangrenous ulcer on his leg and was examined, treated and released. He was the patriarch of a family of at least six adult children, one of whom belonged to BLD.

Toronto has an extensive Filipino community and the S family was fairly well-known in that community. On March 23, seven days after the hospital visit, the S family held a social gathering at the patriarch's home. All the partygoers, mainly family, were potentially exposed to the SARS virus picked up in the Scarborough Grace waiting room. Only two of the people at the house gathering were BLD members. One was the patriarch's son, the other a close family friend. It is believed the friend became infected at the party. The friend then attended a BLD retreat and Mass on March 28 and 29, events attended by as many as 500 BLD members.

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[352] War on Deadly Foe Enters Critical Phase, *Globe and Mail*, April 19, 20003

By April 1, the patriarch's family was in crisis. At least three members of the family had visited the Lapsley Family Doctors' Clinic in Scarborough one or more times during the last week of March. One of the doctors who treated them was Dr. Nestor Yanga,[353] a family friend whom they infected and who succumbed after a long fight against SARS on August 13, 2003, two months after the last reported infection. Mr. S had been admitted to Scarborough Centenary Hospital on March 26 and died there on April 1, but SARS was not suspected. On April 2 his wife was admitted to Centenary and two sons were sick. One son, F Jr., who had been with his father on his first hospital visit on March 16, visited Scarborough Centenary emergency department on March 27. He was examined and sent home. Another son, Fx, returned to the Lapsley clinic where he was seen by Dr. Yanga.

This was two weeks after the World Health Organization issued its first definitive description of the disease. It was called atypical pneumonia; the name SARS was not used until March 15.[354]

Funeral arrangements were made for Mr. S and a visitation was held at the J Funeral Home on April 3. There were two visitations at the funeral home that evening, one for Mr. S and another for an unrelated person, and the two sets of families and friends shared a common lounge. After the visitation one of Mr. S's sons, Fx, was so ill he was taken by ambulance to Scarborough Centenary, where his mother, admitted the day before, was in serious condition. Also on April 3, Mr. S's sone F Jr. wen to the Lapsley Clinic and was seen by Dr. Yanga. F Jr. was sent to Women's College Hospital and later admitted to Sunnybrook Hospital.

As of April 3, Mr. S was dead, his wife and two of his sons were in hospital and several other family members were beginning to feel unwell. Three major possible transmission events had occurred, the house party on March 23, the BLD retreat and Mass on March 28-29 and the funeral home visitation on April 3. More illness was to come. Before it was over both the patriarch and his wife had died of SARS and four others in the S family were sick enough to be treated in intensive care units.

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[353] Commission policy is not to use actual names of people who contracted SARS. However, Dr. Yanga's case and name have been publicized at public hearings and in the media, so it is impossible to conceal his identity in this report.

[354] SARS Commission Public Hearings, September 29, 2003.

The night of April 3, a Toronto Public Health doctor received a call from Scarborough Centenary, where a respirologist had diagnosed SARS in Mr. T's wife. Toronto Public Health also learned that the woman's husband had died two days earlier. On top of that, two of her sons were ill with flu-like symptoms. This was unusual and Toronto Public Health began to investigate.

There was some confusion over whether Mr. S died of SARS but it was considered likely. Toronto Public Health became alarmed about exposure at the visitation. It told the family that another planned visitation and the funeral must be cancelled, and that the interment could be attended only by family members who were not sick.

The next morning Toronto Public Health got the funeral home register to determine who had been at the visitation the night before. Roughly 70 persons were at the funeral home for Mr. S, plus another 36 for the other family and 11 staff.[355] It began contact tracing of those 100-plus people. Two days after the visitation it issued a public notice about the visitation and advised anyone who had attended to go into quarantine. Toronto Public Health also spoke to two of Mr. S's sons who were ill. It learned that one belonged to BLD but did not learn about the other potentially critical spreading events, the house party and the BLD retreat and Mass.

BLD leaders who had been at Mr. S's visitation contacted their personal physicians and were advised to go into voluntary quarantine because of possible exposure. They contacted other BLD members known to have been at the funeral home and advised them to do the same and to call Toronto Public Health. They did, and Public Health sent quarantine supplies such as masks and thermometers to their homes. However, no general quarantine of BLD was ordered.

Then, on April 5, Toronto Public Health received a call from Markham Stouffville Hospital saying that Dr. Yanga had come there with a dry cough and malaise. He went back to his home the same day and into voluntary quarantine, sending his family away. Dr. Yanga shared the Lapsley Clinic with three other physicians, and all but one became ill. The clinic was closed and checks were started on when members of Mr. S's family had been there. The story of the Lapsley Clinic follows in the next section.

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[355] SARS news conference with public health officials, April 2003.

Several days later Toronto Public Health began to put all the connections together. On April 9 Dr. Basrur received a late-night call from a staff member who said two members of BLD had been diagnosed with SARS. At least one had attended the March 23 family party, the BLD retreat and the funeral home visitation. "On the 9th of April, Wednesday, it clicked about the BLD connection," recalled a Toronto Public Health physician.

There was considerable scrambling over the next three days. Toronto Public Health held an emergency meeting with the BLD leadership. It asked for a list of everyone belonging to BLD. The group's leadership was extremely cooperative and cancelled all the community's functions for April and May. "They took the whole thing very seriously," Toronto Public Health reported later, "As leaders of the community they were bending over backwards to assist us."

There were concerns that news of SARS within BLD could have repercussions for the group and its individual members. These concerns proved to be well-founded; the details will be addressed later. Toronto Public Health obtained the BLD list on the night of April 11. It was given to five public health nurses staffing a Public Health hotline. They began calling out, talking to people who might have symptoms. The nurses made 30 calls in the first hour but quickly became frustrated because the word had spread through BLD and people were expecting the calls. "The nurses were doing risk assessments and the people already knew what answers to give", one Toronto Public Health doctor told the Commission.

Like most people who know they are going to speak with a doctor or a nurse about themselves, they had prepared what to say, making it difficult for the nurses to do thorough risk assessments. The public health nurses did find three sick people during the first hour, a mother and two of her sons. One son worked at a local racetrack and casino, and Toronto Public Health dispatched an ambulance to pick him up and take him to hospital. Hospital staff examined him, then put him on a bus back to return to work. He was located a second time and got himself to another hospital. The fear now was that SARS, which had been traced back only to hospital transmissions, was out in the community. No one knew where it might go or how difficult it might be to get it stopped.

About this time an epidemiology expert was drafted to help P ublic Health assess the outbreak. He told the Commission that he feared SARS had gone into the community and that:

> . . . I'm still impressed with the BLD church leaders for what they did and I think they deserve so much credit for actually stopping this.

The BLD leadership was concerned that the quarantine would leave the group stigmatized, but they not only accepted the Toronto Public Health decision, they plunged in with support. Said one Toronto Public Health physician:

> They were incredible. They were forthcoming. They identified the issues.

Toronto Public Health wrote a letter that the BLD leadership distributed through email, reaching 95 per cent of the membership. The other five per cent was reached by telephone. The three-page letter gave guidelines for the 10-day quarantine, plus a warning:

> I recognize that these directives will cause disruption and possible hardship to individuals and families. However, failure to comply with these requirements will place at risk not only your own health but also the health of your family, BLD members and possibly others in the broader community. Failure to comply will also result in legal action being taken against you.[356]

The SARS outbreak marked the first use of quarantine in Ontario in 50 years. The use of quarantine and its extent during SARS will be discussed below. Dr. Jim Young, told the Commission at its public hearings that Ontario's use of quarantine was unrefined but it served a purpose because there was some community spread of SARS and there was huge public pressure for quarantine.

> We had a community spread, in fact, through doctors' offices, with an incident in a funeral home and that, in turn, spread into the workplace. . . . So, we can't pretend that it [quarantine] was of no value or it didn't do anything. First, we didn't know its value and, secondly, there was community spread. We made the decision, from the beginning, as to what to do and how to do it using a scientific committee.[357]

There was concern that quarantine might be problematic in such a large group as BLD, especially because it would cover Easter week, the most important time of the Catholic religious year. Holy Thursday, Good Friday and the Saturday-Sunday Easter rites are critical Catholic times that devout practitioners are loath to miss. The BLD leadership took firm control, however, telling members it was their religious duty to stay at home. They arranged broadcast of Easter services over cable TV and home delivery of Communion.

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[356] April 13, 2003, letter from Dr. Sheela Basrur, Medical Officer of Health.

[357] SARS Commission Public Hearings, September 30, 2003.

Quarantine might be of limited effect, however, now that the disease was on the loose. Health officials did not know at the time that the virus was not particularly communicable in open community settings. There was worry about who had been unknowingly infected before quarantine. "As we had already learned with Grace [Scarborough Grace Hospital] after SARS shows up, it's too late," Dr. Young told the Commission.[358]

During Easter week, April 13 – 20, nine health professionals involved in treating Dr. Yanga were infected at Sunnybrook Hospital. This dramatic evidence that nurses and doctors and medical support staff were not adequately protected by worker safety systems will be discussed below under the heading "Disaster at Sunnybrook."

At roughly the same time, a nurse's aide from Toronto arrived in the Philippines and immediately started to show symptoms. She had been caring for a friend's mother who had been to Dr. Yanga's Lapsley Clinic. Her trip to the Philippines was to assist her parents return from a trip there. She infected her parents and started a Philippines cluster. She and her father died of SARS in the Philippines; their story is told in the Lapsley Clinic story that follows.[359]

Another exported case was a man from Pennsylvania who travelled to Toronto and attended the BLD retreat. He became ill on his return home on April 14 and was taken to a Philadelphia hospital, where he was diagnosed with SARS. There were no transmissions from him.

All this news prompted the U.S. CDC to list Toronto as an area with documented or suspected community transmission of SARS. CDC said BLD had multiple outreach areas throughout the United States and asked state and local health officials to be on the lookout for SARS among people who had travelled to Toronto and to report them to CDC.

The WHO also expressed its concern about the outbreak by advising against all but non-essential travel to Toronto.

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[358] SARS Commission Public Hearings, September 30, 2003.

[359] Philippines Government death certificates, April 2003.

> WHO has assessed the SARS situation in Toronto, Canada. The outbreak in this area has continued to grow in magnitude and has affected groups outside the initial risk groups of hospital workers, their families and other close person-to-person contacts, although all the cases reported have identified links to known SARS cases. In addition, a small number of persons with SARS, now in other countries in the world, appear to have acquired the infection while in Toronto.[360]

The Public Health Response

The social and economic ramifications of SARS were so huge that there was bound to be intensive examination and criticisms of how Public Health performed during the crisis. The BLD cluster quickly became one important area for focusing on what Public Health did wrong and what it did right.

The media questioned whether Public Health, Toronto Public Health in particular, had reacted quickly enough to the outbreak connected to BLD. Words like *misjudgment* and *missteps* showed up in the news coverage. "Crucial misjudgments and bad timing played key roles in a SARS outbreak that hit a religious community and threatens to spread the disease further across Toronto," reported the *Globe and Mail*.[361]

Questioning of Toronto Public Health's BLD performance centred on three main areas: preparedness, reaction speed and the use of quarantine.

A doctor who treated Mr. S's wife while she was dying told of how he needed some information on work quarantine and could not get through to public health authorities by telephone. He gave up and drove to his hospital to get the information he needed.

One management specialist called in to help the provincial health branch with the outbreak spoke of the "mess" of Toronto Public Health's systems:

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[360] World Health Organization, Update 37, April 23, 2003.

[361] "Health system's misjudgments escalated new SARS outbreak," *Globe and Mail*, April 16, 2003.

> And because Toronto was such a mess with their records, we would often have the same person three or four times. . . . everybody got ticked that they were always being asked for information they had just given you.

Dr. Basrur reported on September 2003 to the Board of Health[362] that "the volume of information generated in the SARS outbreak far exceeded previous experience." She said staff were forced to use inefficient manual and paper-based systems that were slow and duplicated some effort. Public Health technical staff developed a case and contact management system partway through the crisis and work was later underway to improve information sharing between local health units, the Province and Health Canada.

The Commission heard and has reported in its interim report that at times Public Health was overwhelmed by a staggering workload during SARS:

> Despite the best efforts of so many, the systems for redeployment proved inadequate. SARS demonstrated the need to create surge capacity by planning in advance so that every available worker can be deployed where necessary.[363]

Toronto Public Health's reaction to SARS was to establish an emergency response plan, set up a public information hotline and assign staff full time to the outbreak investigation. Up to 400 staff worked on the front lines on any given day. The hotline received more than 300,000 calls between March 15 and June 24, with a peak of 45,567 on one day.

The deepest questioning of Toronto Public Health's response to the BLD cluster was about response time. Public health officials knew on April 3 that a family patriarch was dead, his wife was in hospital and two of his sons were ill. Toronto Public Health began contact tracing and issued a public notice on the funeral home visitation two days later. Toronto Public Health says that on April 9 it recognized a connection between Mr. S's family's illness and BLD. On April 13, it issued the quarantine notice to BLD members.

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[362] Toronto Board of Health, Toronto Public Health's Response to the Severe Acute Respiratory Syndrome (SARS) Outbreak 2003, September 9, 2003.

[363] SARS Commission, first interim report, April 15, 2004.

The question has been asked in the media and by the Commission: Why did it take so long to isolate BLD members and to notify the public of the BLD exposures? Some BLD members who attended the April 3 funeral home visitation began voluntary quarantine on April 4.

Dr. Basrur gave her answer to the media a few days after the BLD quarantine was announced:

> It's a fair question . . . At that point [April 5] we didn't realize the degree of interaction between this group.
>
> Hindsight is absolutely my best friend.[364]

She said the more they investigated, the more they realized that BLD had more regular and close contact than imagined. As more cases were revealed, they decided to discuss quarantine.

> If we had acted in a similar fashion a week earlier it would have been seen as overkill, she said.[365]

At the time of the SARS outbreak there was considerable debate on whether to use quarantine. History has shown that quarantine brings fear, discrimination and hardships, including separation from family and friends and potential income loss from being away from work. Also there are hardships connected to being labelled a possible case. A study of the Ontario SARS outbreak showed that quarantine can result in considerable psychological distress in the forms of post-traumatic stress disorder (PTSD) and depressive symptoms.[366]

The study noted:

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[364] "Health system's misjudgments" *Globe and Mail*, April 16, 2003.

[365] "Health system's misjudgments" *Globe and Mail*, April 16, 2003.

[366] "SARS Control and Psychological Effects of Quarantine, Toronto, Canada," *Emerging Infectious Diseases* (July 2004) (SARS Quarantine Study).

> Public health officials, infectious diseases physicians, and psychiatrists and psychologists need to be made aware of this issue. They must work to define the factors that influence the success of quarantine and infection control practices for both disease containment and community recovery and must be prepared to offer additional support to persons who are at increased risk for the adverse psychological and social consequences of quarantine[367].

Some medical experts consider quarantine an outmoded public health strategy. Others consider it a tool secondary to good infection control practices, while still others say that the hardships and stigma presented by quarantine are acceptable if some disease spread is controlled.

The decision to put BLD members into quarantine certainly was not taken lightly. Two Toronto Public Health doctors recalled for the Commission the thinking that went in favour of quarantine. One remarked:

> If this is it, then it's take a stand now or never. If we can't control it at this stage then it really may be gone out of control into the community, and we knew we were doing something very drastic. We had no rose tinted glasses on about that at all.

Said the other:

> We certainly didn't do it with any great ease either. Quite a bit of anxiety back and forth around doing the right thing. There's the right thing for the group. There's the right thing for the rest of the community. It was difficult.

Dr. Basrur said there were concerns that because the majority of BLD members were Filipino their quarantine might be seen as singling out one ethnic group.[368]

One of the Toronto Public Health doctors invovle din this case said:

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[367] SARS Quarantine Study, p. 7.

[368] "Health system's misjudgments," *Globe and Mail.*

> If you make a mistake, err on the side of caution. We quarantined all sorts of people that we did not have to quarantine but we did not know this at the time. I knew that we quarantined too many but if that is the worst thing that we did, we did all right. We knew this [SARS] was killing people and it was very dangerous.

Stigmatization

Concerns that a quarantine of BLD would bring discrimination and hardship on its members proved to be justified. Once BLD and SARS were connected publicly, members of the group began suffering stigmatization. The stigmatization went beyond BLD and spread into the Filipino community because so many BLD members had a Filipino background.

Once the BLD name was public, its members became thought of as people to be feared and avoided. The *Globe and Mail* newspaper in Toronto reported that many families were avoiding hiring Filipino nannies because many BLD members had a Filipino background. One woman offered to pay her Filipino nanny to stay home although the nanny had no connection with BLD.[369]

The BLD leadership complained that the group was stigmatized by public identification with the disease:

> Even as we received a clean bill of health from public health authorities and stepped out of the doors of our homes to rejoin the larger community, we encountered a number of distressing situations.

These included two medical labs in Oakville and Ajax and an X-ray clinic in Scarborough posting signs saying BLD members should not enter. Also a student who belonged to BLD was sent home because she coughed in class.[370]

The BLD experience raises the general problem of stigmatization suffered by Chinese, Asians generally, health workers and other groups that were named publicly.

Some people blamed the news media for helping to promote the stigmatization.

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[369] "SARS threatens jobs for nannies," *Globe and Mail*, April 16, 2003.
[370] From a BLD fact sheet given to the Commission by BLD leaders.

"Media response was fast and furious," said a funeral home employee whose operation was caught in the media spotlight. "They loved to play on the terms that indicate danger."

When Toronto Public Health issued the public notice about Mr. S's visitation it named the funeral home, which was understandable. However, this funeral industry worker said that the media continued to link the home's name with the SARS story long after the quarantine period from the visitation ended. People, including suppliers, avoided the home because the name was still in the media. "The media lacked understanding," he said.

There was a feeling, certainly within BLD, that the BLD connection with SARS was hyped in the media. BLD member Don O'Shaughnessy of Scarborough, who was quarantined during the Easter outbreak, certainly thought so:

> When you see yourself [BLD] identified in a *Time* magazine graphic as a locus of the disease, it hurts, especially when the information is wrong.[371]

He said BLD should have been given the same consideration about privacy as individuals.

> The community really was singled out and the name BLD was carelessly used[372].

In fairness, the media had an important duty to report on this serious public health threat. The spread of a deadly disease into the community through any identifiable group, whether it be a religious or ethnic group or a visible minority, is a story that must be covered. The difficulty with reporting such stories is that they are easily sensationalized and require scrupulous accuracy, balance and fairness.

The media faced real difficulties in reporting the BLD story. SARS was a new threat and dealing with it was a learning experience. Efforts to get a quick and firm grip on the disease were hampered by a lack of clear facts in the fog of worry over a deadly developing situation. Even the public health authorities, on whom the public and the media were relying for solid information, did not have all the facts. Although the media generally did a good job in SARS, sometimes an outstanding job, there were some unfortunate cases in which news stories did not appear to be completely accurate or fully balanced.

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[371] "Marked by SARS," *Toronto Star*, December 13, 2003.

[372] "Marked by SARS," *Toronto Star*, December 13, 2003.

For instance, it was reported that two BLD members violated quarantine and went to work at a geriatric centre. In fact, the workers were not BLD members.

Another media report said that a BLD member went on a business trip to Montreal despite exhibiting SARS symptoms. The man was a BLD member and before the trip was feeling unwell, but he consulted his personal physician, who cleared him to travel.

The media reported that the Toronto nurse's aide who brought SARS to the Philippines was a BLD member. She wasn't and was infected by chance, by being kind to someone who had been infected at the Lapsley Clinic.

Some reporting simply gave a wrong impression. One newspaper report said the Catholic Archdiocese of Toronto restricted communal traditions because it was "fearful" that BLD members had exposed "congregants" to SARS. In fact, Tony Clement, Ontario's health minister at the time, has stated publicly that he called a Catholic cardinal and asked that rites be altered to reduce the chances of spreading the disease. The cardinal agreed.

These instances show the need in public emergencies for the media to use extraordinary efforts to ensure accuracy, balance and fairness. The same should apply to public authorities who are passing information to the public through the media. If their facts are not accurate, the media is not always in a position to confirm them.

The Lessons from BLD

The BLD story is strewn with confusion, misunderstanding and fear directly resulting from a lack of facts, for instance, people avoiding contact with any Filipinos, such as Filipino nannies, or people avoiding all people of Asian descent for fear of SARS exposure. Public health authorities tried to use reason to overcome such unreasonable fears. Toronto Public Health sent people into schools to work with principals. At news conferences, public health officials stressed that it was not easy to contract SARS and that race had nothing to do with getting it. "I would remind everyone that viruses are viruses," stressed one Toronto Public Health spokesman. "And viruses are not racial viruses . . . any racial stigma attached to this is simply scientifically not valid or appropriate."[373]

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[373] SARS news conference, April 5, 2003.

However, we have to do better next time in terms of public communication and supplying solid factual information with balance so the public is able to judge the situation reasonably. The relationship between public authorities and the media is a key to ensuring that the public is informed quickly and accurately.

The importance of good public communication was stressed at a September 2003 conference in Singapore that discussed communications guidelines in fighting epidemics. Lee Jong-Wook, director-general of the WHO, told the conference in a videotaped statement that communication is "as critical to outbreak control as laboratory analyses or epidemiology," and that "poor outbreak communications can undermine good decisions."[374]

One of the most important lessons in the BLD-SARS experience was a positive one: Good leadership always helps people through time so crisis and fear. BLD leadership guided members through a difficult and dangerous time, while at the same time setting an example for governments and their agencies.

The most important thing BLD did was communicate clearly with its membership. It gave them facts they should know and provided them direction. It also organized ways of making a difficult situation more bearable: for example, Mass by cable television, Communion delivered to the doors of those quarantined. Supplying facts, clearly and directly, is the best way to control fear. When people have facts that they believe are credible, they feel better equipped to face their difficulties.

BLD Chronology

March 16, 2003 – Eighty-two-year-old patriarch of a Filipino-Canadian family (the S family) brought to Scarborough Grace Hospital emergency with leg ulcer related to diabetes. Family members accompanying him exposed to SARS in hospital waiting room.

March 23 – Social gathering at Mr. S's home. Partygoers exposed to the SARS virus picked up in the Scarborough Grace waiting room. One attendee is a member of BLD.

March 26 – Mr. S ill again and admitted to Scarborough Centenary Hospital.

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[374] "Good communication helped S'pore beat Sars: WHO adviser," *Straits Times*, September 22, 2004.

March 27 – One of Mr. S's sons, F Jr., feeling unwell and goes to Scarborough Centenary, where he is examined and sent home. One of his brothers, FX, also is feeling unwell.

March 28 and 29 – BLD holds a retreat and Mass attended by as many as 500 people. The BLD member who was at Mr. S's house party attends.

March 29 – F Jr. still sick and visits Dr. K at the Lapsley Clinic. Prescribed antibiotics.

March 31 – Mr. S's wife and son FX attend Lapsley and are seen by family friend Dr. Yanga.

April 1 – Mr. S dies. Cause listed as sepsis, but changed to SARS following a postmortem review.

April 2 – Mr. S's wife admitted to Scarborough Centenary Hospital, where husband died the day before. Son FX returns to Lapsley and is seen again by Dr. Yanga.

April 3 – F Jr. goes to the Lapsley in worsening condition and is seen by Dr. Yanga. Sent to Women's College Hospital, then Sunnybrook Hospital, where he is admitted with evidence of SARS.

April 3 – Friends and family attend funeral home visitation for Mr. S. After the visitation son FX is brought to Scarborough Centenary by ambulance.

April 3 evening – Toronto Public Health doctor receives call from Scarborough Centenary about Mr. S's wife's admission and illness in other family members. Investigation begins.

April 4 – Toronto Public Health orders T family to cancel a second visitation for the Mr. T, and the funeral, scheduled for April 5.

April 4 – BLD leaders, who attended the funeral home visitation the previous night, consult personal physicians and advise BLD members to go into voluntary quarantine.

April 5 – Dr. Yanga goes to hospital ill, then into voluntary quarantine.

April 8 – Dr. Yanga admitted to Sunnybrook Hospital with SARS symptoms.

April 9 – Toronto Public Health connects BLD with the S family, the March 23 house party and the April 3 funeral home visitation.

April 12 – Dr. Sheela Basrur, Toronto Medical Officer of Health, issues an urgent message to Toronto hospital emergency departments advising them to be on the look-out for BLD members with SARS symptoms.

April 13 – TPH mired in tracking and contacting BLD people who might have been exposed, and issues quarantine order for BLD members.

April 14 – Nurse's aide who contracted SARS from patient of Lapsley Clinic dies in the Philippines.

April 14 – Pennsylvania man who attended March 28-29 BLD activities in Toronto returns home and falls ill with SARS.

April 14 – 100 Toronto city workers quarantined because two workers belong to BLD.

April 15 – Health care worker helping to treat Dr. Yanga in hospital falls ill.

April 15 – Roman Catholic Archdiocese of Toronto suspends taking Communion from chalice, kissing the crucifix on Good Friday and extending salutations of peace through handshakes.

April 18–20 (Easter weekend) – Easter Mass broadcast to quarantined BLD members via television and Communion delivered to their homes.

April 21 – Centers for Disease Control in U.S. adds Toronto to affected areas because of spread within BLD.

April 23 – Wife of Mr. S dies of SARS, age 85.

April 23 – BLD quarantine ends.

June 12, 2003 – Onset of last known SARS infection in Canada.

August 13, 2003 – Dr. Yanga, in hospital more than four months, succumbs to SARS.

The Lapsley Family Doctors' Clinic

People don't expect to get sick from visiting their family doctor's office. Doctors' offices generally are safe, even though sick people attend there. The spread of SARS at the Lapsley Family Doctors' Clinic in Toronto, however, raises concern that our doctors' offices are weak links against SARS and other infectious diseases.

Family doctors' offices fortunately did not become transmission spots for SARS. The Lapsley was the only doctor's office to become a vector for the spread of the disease,[375] but regrettably it was a tragic exception, with international implications. One of the clinic's physicians, Dr. Nestor Yanga, died of SARS and two of his colleagues became seriously ill.

Dr. Yanga, 54, known as a kind and gentle physician, left a wife and two sons, and was the only North American doctor to die of SARS. One of his sons, Ron, a Grade 12 student at the time, described his father:

> He was a kind, caring man. He cared about everybody – his patients, his friends, his family. He made you feel special.[376]

Horrific as the Lapsley incident was, it could have been worse. SARS could have created other Lapsleys by spreading through dozens or hundreds of other family clinics and doctors' offices. As the Commission noted in its first interim report:

> The Lapsley clinic showed that family physicians were clearly at risk, as a SARS case could walk through their door at any time. Many SARS patients did not only go to SARS clinics and hospitals. Many avoided them from fear of SARS and went instead to see their family physician.[377]

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[375] Although one doctor caught SARS in her office from a patient and a number of doctors had to be quarantined after suspected contact with SARS, these isolated incidents involved no further spread of the disease.

[376] *Toronto Star*, September 27, 2003.

[377] SARS Commission, first interim report, p. 150.

The Lapsley tragedy shows that more must be done to support family doctors and to better prepare them for the next outbreak of infectious disease, and to make their offices even safer than they are now.

The Lapsley Clinic was operated by four family physicians in northeast Toronto. Many of its patients were Canadians originally from the Philippines. Some were members of the S family, one of whom was associated with the BLD SARS cluster referred to above.

The Lapsley Family Doctors' Clinic is mentioned by name because it is already in the public domain through media reports and presentations at SARS Commission hearings.[378] Also in the public domain are the names of Dr. Yanga, who suffered four months before dying on August 13, 2003, and Dr. Rex Verschuren.[379] Because these names are in the public domain they are used in this report.

The tragedy began when the 82-year-old patriarch of the S family was brought to Scarborough Grace Hospital on March 16, 2003, by his wife and one son and a daughter-in-law. In the emergency room waiting area was a woman who had been infected with SARS earlier and who passed on the infection to the S family. The disease later killed the patriarch and his wife and severely sickened other, younger members of the family.

Sick members of the S family went to at the Lapsley Clinic late in March and early April. One son went to the clinic on March 29, was seen by Dr. K and was prescribed antibiotics. The patriarch's wife and another son attended the clinic on March 31 and were seen by Dr. Yanga, a family friend well-known in the Filipino-Canadian community. It is believed that during these sessions SARS was passed on to clinic staff and patients.

Three of the four doctors at the clinic became ill with SARS. Why the fourth, Dr. Verschuren, did not is a mystery, and public health officials believe it might have something to do with the location of his office in the clinic.

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[378] See in particular the presentation of Dr. Jan Kasperski, Executive Director and CEO of the Ontario College of Family Physicians, SARS Commission Public Hearings September 29, 2003.

[379] See Dr. Verschuren's lengthy CBC interview by Kelly Crowe, "Was Canada Ready for SARS?" April 30, 2003. Dr. Verschuren declined to speak to the Commission and the Commission decided that he had put enough of his story in the public domain and that it was unnecessary to issue compulsory legal process to secure an interview with him.

The two other doctors at the clinic became severely ill but survived.

Another horrible side story from the Lapsley Clinic began when an older female patient attended the clinic at the same time as some members of the S family. She became infected with SARS. Her daughter had a friend, Adela Catalon[380], who was a nurse's aide, and when the older woman was ill at home, Ms. Catalon was kind enough to stop by her house to provide nursing assistance.

During her Good Samaritan work Ms. Catalon unknowingly became infected, then travelled to the Philippines to assist her elderly parents, who were returning home to Canada. She arrived in Vacante, Philippines, on April 4, and two days later became ill. She died on April 14 in hospital, the fourth Toronto-area health worker to die of SARS. She infected her father, 74, who died eight days later. An entire village of 1,000 people was quarantined because she had been there. Police were stationed at the approaches to the village to stop people from coming and going. The Philippines Department of Health traced 257 people she was believed to have had contact with, plus the people who had been on the plane that brought her from Canada.[381]

The Philippines recorded 12 probable cases of SARS during the outbreak, eight directly connected to Ms. Catalon and therefore the Lapsley Clinic in Toronto. The other four cases were imported by others. The World Health Organization (WHO) placed the Philippines on its list of local transmission places but lifted the recommendation in May. Two SARS deaths were recorded, those of Ms. Catalon and her father.[382] The WHO credited fast emergency action by the Philippines for stopping the outbreak from growing.

The SARS situation in the Philippines illustrates the scale of the emergency effort needed to respond effectively to an imported case and to ensure that an outbreak is swiftly contained, keeping the number of secondary cases small. The imported case travelled to five provinces prior to hospitalization. Contact tracing identified 250 casual and close contacts who were closely followed up. Four of these developed fever and were quarantined until a diagnosis of SARS was excluded.[383]

The WHO also said:

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[380] Because Ms. Catalon's case has been widely reported and is in the pubic domain, she is referred to by name in this report.

[381] "SARS-suspected village sealed off," *Manila Times*, April 23, 2003.

[382] WHO Update 60, May 20, 2003.

[383] WHO Update 60, May 20, 2003.

> The efficient surveillance and reporting system in the Philippines, which reflects strong political commitment and a high level of awareness among health staff, confers an additional level of assurance that no local transmission is now occurring.

At the outset, however, the case of Ms. Catalon set off widespread fear in the area in which she had travelled. The *Manila Times* reported on the precautions taken at her burial:

> Her coffin remained unopened inside the hearse that took it to the public cemetery in Alcala, the provincial administrator told the *Times*. Only members of her immediate family were allowed to come near the funeral car before it headed towards the cemetery.[384]

Meanwhile, at the Lapsley Clinic the situation had worsened. Three of the four doctors were ill.

Dr. Verschuren, the only doctor at the Lapsley who did not become ill, was quarantined. The clinic was forced to close, leaving hundreds of patients without a doctor. A private group of doctors tried to arrange locums to cover the clinic's backlog and some family doctors volunteered to work shifts there. Dr. Verschuren returned to the clinic after quarantine but had difficulty trying to keep up, seeing 160 patients a day instead of the usual 40 or 50.[385]

The spread of SARS through the Lapsley Clinic caused anxiety in the medical community and, of course the public. It raised immediate questions about safety and protection in family doctors' offices.

The Ontario College of Family Physicians told the Commission that as word got out about the clinic, fear amongst family doctors was heightened.[386]

Family doctors felt vulnerable when SARS began. Anyone falling ill would go to their family physician; however, family practitioners said they had not been warned or prepared to deal with SARS. These concerns were raised by the Ontario College of

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[384] "SARS-suspected village." *Manila Times*.
[385] "SARS had immense impact". *Canadian Medical Association Journal.*
[386] SARS Commission Public Hearings, September 29, 2003.

Family Physicians and by Family Physicians of Toronto, which represents 2,000 physicians working in the city. As they told the Commission at its public hearings:

> In the early days of the crisis, Telehealth, emergency department staff and media were telling people to go see their family doctor if they had SARS-like symptoms; yet no one in a position of authority thought to provide family doctors with the knowledge and the skills they needed to properly assess SARS or the policies and procedures they should follow or the supplies and equipment they required to protect themselves, their staff, their families and, most important of all, other patients.[387]

The Ontario College of Family Physicians told the Commission that too much of the fight against SARS was directed at hospitals and not enough at the work of family physicians:

> Many patients had booked appointments and others simply wanted to see their own doctors. If they had SARS-like symptoms, they were reluctant to go to the SARS clinics. They would tell us that they were concerned that if they did not have SARS, they would get it by being exposed at the clinic, and if they did have SARS, they wanted their own family doctor to look after them, and given the long-standing relationship that family doctors have with their patients, this is perfectly understandable and must be taken into account in future planning.[388]

When family doctors began to realize that patients with SARS-like symptoms were showing up in their offices, they began to take precautions, but their approaches were inconsistent as they lacked clear direction from a source of authority.

Family physicians were given insufficient information during the SARS crisis, said the College. They felt as if they were out of the communications loop and that they were operating under an umbrella of darkness.

The College was critical of the lack of support for the Lapsley Clinic:

> At no time did he [Dr. Verschuren] receive any calls or visits from those in authority and, to this day, he does not know if those who were exposed in his office were contacted. No one in authority offered the clinic advice

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[387] SARS Commission Public Hearings, September 29, 2003.

[388] SARS Commission Public Hearings, September 29, 2003.

> on how to decontaminate their office. The clinic doctors and staff simply had to soldier on without help.[389]

Another of the Lapsley doctors confirmed with the Commission that some family doctors felt they did not have enough support. One doctor told how he bought protective goggles and masks at Home Depot:

> I felt somewhat abandoned, being a front-line health care worker and being unable to protect myself.

The College also warned about the future:

> We're not saying that the focus should not have been on hospitals – that was where the spread was occurring, but the Lapsley Clinic experience points out how easily this disease could have become a major community-based outbreak. We were lucky this time. We may not be so lucky next time.[390]

Better communications are key to fighting another outbreak, said the College. Communications during SARS were slow "and essential information did not get to the right people quickly enough and with sufficient authority to prevent the virus from getting a leg up." The old ways of planning how to respond to a crisis in the midst of a crisis must end. Communications about what must be carried out need to be done fast and accurately.[391]

The College said a pre-arranged plan for communication must document who will be responsible for communication within each sector and between sectors. It also called for a pre-arranged plan for the redeployment of human health resources "to adequately cover the hot spots, including plans for when and how to acquire assistance from other communities, provinces and the federal government."

Ontario must prepare for the next outbreak or pandemic finds and ensure there is a better system to protect family doctors and their patients.

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389. SARS Commission Public Hearings, September 29, 2003.
390. SARS Commission Public Hearings, September 29, 2003.
391. SARS Commission Public Hearings, September 29, 2003.

For all its horror and agony, the Lapsley Clinic story offers hope. Despite the devastation of SARS, the clinic reopened and continued the important work of treating people. One Lapsley Clinic doctor who became ill almost died and was in hospital for six months. But when he recovered he returned to work at the Clinic and said he would work through SARS again. When he spoke with the Commission, he reinforced one of the most important messages of SARS: although the system is broken, there are many professionals who remain dedicated to helping others in times of health crisis. He said:

> I'm a Christian and through my faith . . . I believe that this is what I'm called to do. If there were something that would come about, if it were to happen that I were to get sick again, then that would be what was meant to happen. I believe that God will protect me through what will happen. So, yes, I will. I will probably slow down my volume [of patients] and take more precautions.

We cannot help but be moved by the doctor's courage and his faith. But for the next outbreak, the next pandemic, we need more than faith. We need systems of the kind tragically lacking when SARS struck, systems to protect family doctors and their patients from what happened at the Lapsley Family Doctors' Clinic.

Disaster at Sunnybrook

Introduction

In a matter of hours on April 13, 2003, nine health workers caring for a SARS patient, referred to as Mr. Z, contracted the disease at Sunnybrook,[392] one of Canada's best-known teaching hospitals.[393] Six health workers were in the room when the 54-year-old man, who had severe breathing difficulties, was intubated.[394] The three others were exposed a few hours earlier.

Sunnybrook was forced to close its critical care unit, its cardiovascular intensive care unit, its emergency department, its regional trauma service and its SARS assessment clinics.[395] As Dr. Mary Vearncombe, senior infection control specialist at Sunnybrook, said:

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[392] During SARS, Sunnybrook was part of the Sunnybrook and Women's College Health Sciences Centre.

In June 1998, the Ontario government passed a *Special Act of Legislation* (Bill 51) creating Sunnybrook and Women's College Health Sciences Centre (Sunnybrook & Women's). This new health organization amalgamated Sunnybrook Health Sciences Centre and Women's College Hospital. On August 18, 2005, the Ontario government announced that Women's College Hospital and Sunnybrook would again become separate health care facilities.

[393] For the full story of Sunnybrook during SARS, the reader is invited to view what was presented publicly during the Commission's hearings by Mr. Leo Steven, president and CEO; Dr. Bob Lester, EVP Academic and Medical Affairs; and Dr. Mary Vearncombe, hospital epidemiologist and senior infection control specialist. Their PowerPoint presentation and the transcript of their oral presentation are, and have been, available on the Commission's website. For the hospital's SARS story, the reader is invited to consult these Commission documents.

[394] The Commission has no mandate to investigate any legal issues arising from the intubation that are the subject of pending lawsuits.

[395] Dr. Mary Vearncombe told the SARS Commission's public hearings: "We had to close our critical care unit and, because our critical care unit is contiguous with our cardiovascular ICU, that also had to be closed. Our SARS unit had to be closed and because our critical care unit was closed, then our emergency department was closed which closed our trauma unit which is, I am told, the first time that the regional trauma service has ever been closed and we had to close our SARS assessment clinics because there was, then, nowhere for us to house the patients that needed admission." See: SARS Commission Public Hearings, Sept. 29, 2003, p. 144.

> The infecting of these staff members did put us in quarantine.[396]

This was a big setback for Ontario, and a serious blow to Sunnybrook, a major contributor to the fight against SARS, and one of Toronto's largest hospitals.[397] Five weeks into the outbreak, it also demonstrated that SARS was still not under control in Toronto, reinforcing its international reputation as a SARS hot spot.[398]

The events of April 13 do not reflect on Sunnybrook, whose dedication to the fight against SARS is noteworthy.[399] Sunnybrook was committed to doing its best to protect its workers, patients and visitors. The hospital believed its protective measures complied with Provincial Operations Centre directives. The workers who caught SARS did everything the hospital said they needed to do to be safe.

With the benefit of hindsight, the events of April 13 illustrate how limited, neglected, and malnourished was the health system's capacity to protect its workers. This systemic problem undermined the ability of Sunnybrook and other Ontario institutions on the front lines of the battle against SARS to effectively respond to the outbreak.

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[396] SARS Commission Public Hearings, September 29, 2003.

[397] In its Sept. 29, 2003, presentation to the SARS Commission's public hearings, Sunnybrook described itself as follows:

- One of Canada's largest academic health sciences centres with about 8,000 staff and physicians and 2,000 volunteers

- Fully affiliated with the University of Toronto and each year we teach about 2,000 students and spend more than $70 million on research.

[398] See "The SARS Epidemic: Precautions; Toronto, Hard Hit by Mystery Illness, Warily Celebrates Easter," *New York Times*, April 21, 2003; CNN, "China facing big SARS spread – WHO; More infected in Hong Kong, Singapore, Canada," April 22, 2003.

[399] Among other things, it is worth noting that at time when Ontario's laboratory resources were woefully inadequate, Sunnybrook helped to fill that gap. As the Naylor Report noted:

> With the provincial lab overwhelmed, some hospitals sent specimens directly to the National Microbiology Laboratory, bypassing the usual hierarchy of referral.
>
> The Hospital for Sick Children, Mount Sinai, and Sunnybrook and Women's had strong platforms in polymerase chain reaction technology—an elegant laboratory testing modality that identifies microorganisms by analyzing strands of their DNA or RNA. They became the de facto and unfunded referral centres for Toronto SARS testing.

SARS Intubation: A Risky Procedure

Patients are intubated when their respiratory system cannot provide them with enough oxygen and other forms of assistance aren't enough. A tube is placed into their windpipe and the airway is opened so oxygen or medication can be administered.[400]

When the tube is successfully inserted into a patient, respiratory secretions may, as occurred at Sunnybrook on April 13, be expelled into the air with great force. One expert graphically describes intubations as "a mucous gun."

About one in four SARS patients was intubated.[401] Intubating a SARS patient was risky because their respiratory droplets might contain "a high viral burden."[402]

How extensively it can disperse secretions was dramatically demonstrated in a WHO teaching film in which a computerized medical dummy was intubated. A small amount of a special gel visible only under ultraviolet light was smeared around the dummy's lips and chin to simulate respiratory secretions.

After the procedure was completed, the regular room lights were turned off, and an ultra-violet light turned on. To the surprise of the participants, tiny specks of blue were illuminated all over the room, indicating how far the gel had been expelled by the dummy.[403]

One participant said:

> We looked and said "What the hell is that?"[404]

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[400] "An endotracheal intubation places a tube into the windpipe (trachea). This is done to open the airway to administer oxygen, medication, or anesthesia. It may also be done to remove blockages or to view the interior walls." Source: Medline Plus Encyclopedia, a service of the U.S. National Library of Medicine and the U.S. National Institutes of Health.

[401] Caputo et al., "Intubation of SARS patients: infection and perspectives of healthcare workers," *Canadian Journal of Anesthesia*, 51:A43 (2004).

[402] Andrew Cooper, Amit Joglekar, Neill Adhikari, "A practical approach to airway management in patients with SARS," *Canadian Medical Association Journal*, Oct. 14, 2003, p. 785.

[403] American Public Health Association, *Behind the Mask: How the World Survived SARS*, (Washington, DC: APHA 2005), p. 92 (*Behind the Mask: How the World Survived SARS*).

[404] *Behind the Mask: How the World Survived SARS*, p. 92.

He was referring to the following scene in the film:

> Eerie patches of light blue are glowing everywhere – on the protective clothing; on the surgical tools used and set aside on a tray; on a couple of syringes with the rims, plungers and barrels all glowing.[405]

One physician who participated in making the film said:

> It was unreal. It was only then that it clicked how many times the doctor and nurse had touched that dummy's head and chin.[406]

There were even blue splotches on the heart monitor:

> Even if the doctor disrobed and disinfected after finishing the procedure, someone else – even cleaning staff – was going to end up touching that heart monitor. And the SARS coronavirus can survive outside the body for up to two days.[407]

Mr. Z Is Taken to the ICU

On the morning of April 13, 2003, Mr. Z was on the SARS isolation unit. As his condition deteriorated, he was examined by two physicians and had his x-ray taken by a technician. All three would contract SARS.

A physician said:

> Earlier that morning he had been okay in his room, just on oxygen by nasal prongs and he became progressively more short of breath and … needing more and more oxygen. We moved him onto a facemask of oxygen and that wasn't enough, so they moved him into ICU.

At about 9:45 a.m, Mr. Z was transferred to the Intensive Care Unit. His oxygen levels were very low, and he was, in the words of one health worker, "in extreme distress, extreme distress."

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[405] *Behind the Mask: How the World Survived SARS*, p. 92.

[406] *Behind the Mask: How the World Survived SARS*, p. 92.

[407] *Behind the Mask: How the World Survived SARS*, p. 92.

He also had a terrible cough. A health worker said:

> I do recall that he had this persistent cough, he was almost like a kid with whooping cough that just goes on and on.

In the ICU, Mr. Z was initially looked after by two respiratory therapists and a nurse. Two other nurses helped out when they could, and when they were needed.

Mr. Z's Condition Worsens

Despite the assisted ventilation known as a BiPap, or bilevel positive airway pressure device,[408] Mr. Z remained disoriented and was "coughing incessantly," recalled one nurse:

> He was also resisting efforts to treat him.

One health worker recalled:

> His condition continued to worsen and we were in the room for a long time, and he was becoming more and more, like, he was becoming violent. He pulled my mask off at one time. He pretty much punched the nurse and I. We were trying to restrain him.

Another health worker recalled:

> He was quite agitated…

A third health worker said:

> He kicked us and pulled and kicked and pulled and kicked.

This health worker recalled vividly how hard the respiratory therapist (RT) worked caring for this extremely agitated patient:

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[408] "Bilevel positive airway pressure (BiPAP) delivers a higher pressure on inspiration, helping the patient obtain a full breath, and a low pressure on expiration, allowing the patient to exhale easily. BiPAP is a common choice for neuromuscular disease." Source: *Gale Encyclopedia of Surgery.* http://www.answers.com/topic/mechanical-ventilation

> I remember the RT that was working with us, how hard she worked to maintain him. Her face was so red. She worked so hard … He was just very sick and she worked like a dog to maintain that man before intubation.

In his distress, Mr. Z would pull off the BiPap mask, cough and expel secretions into the room.

One health worker recalled:

> When the BiPap [mask] comes off which he was pulling off, you know, he was coughing also, and it does spray. And the other thing too, we were in the room for such a long time trying to set this up that I was sweating and I could feel my mask literally disintegrating, like I don't even think I had a mask on at that time when you think about the condition it was in.

As time passed, health workers were becoming increasingly concerned about Mr. Z's condition.

One health worker said:

> We were all very frightened of what was going on.

Mr. Z Is Intubated

Efforts to use the BiPap therapy continued over a few hours, but they were not effective.

One physician said:

> We tried him on BiPap, which is a kind of ventilation mask that has a tight fitting mask over their face which blows air in and out. But we weren't able to give him enough oxygen that way.

The decision was made to intubate Mr. Z:

> After an approximately two-hour attempt to provide oxygen through BiPAP, the patient was intubated.[409]

The three physicians on duty that morning in the ICU came into the room and one of them intubated Mr. Z.

Once the tube had been inserted into Mr. Z's airway, there was, said one nurse,

> Just a huge spray … I am sure everybody was covered with it because I remember myself looking at my yellow gown and seeing the droplets, the little red droplets all over, all over my gown. I remember seeing droplets at the foot of his bed, on his sheets. So I remember thinking anybody that was at, or around, the bed, was probably sprayed.

A health worker said:

> It was quite messy actually… when the endotrachial tube went in, there was lots of secretions that actually shot out of the tube, under force. It was very messy.

A report by the CDC said:

> During intubation, he had copious frothy secretions that later obstructed the ventilator tubing, requiring disconnection and drainage.[410]

After the intubation, the tubing quickly filled with liquid and had to be changed.

One health worker said:

> And it was so bad that when I actually put him on the ventilator, the tubing was filling up with fluid … we actually changed the tubing on the ventilator … normally the thing you would do is just change the circuit and we did that. And that exposes you as well. So we did a four-man

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[409] "Cluster of Severe Acute Respiratory Syndrome Cases Among Protected Health-Care Workers – Toronto, Canada, April 2003," *Morbidity and Mortality Weekly Report*, May 16, 2003 / 52(19), 433-436 (Cluster of Severe Acute Respiratory Syndrome Cases).

[410] Cluster of Severe Acute Respiratory Syndrome Cases, pp. 433-436.

> circuit change. Normally you do it by yourself, but we did it with four people so that we could quickly take everything off and put everything back on so he wouldn't even miss a breath.

Later that evening, Mr. Z's condition stabilized.[411] But he eventually died.

Aftermath of the Intubation

The health workers who cared for Mr. Z in the ICU on April 13 ended their shifts exhausted and concerned they might have contracted the disease.

One health worker said:

> We had been very unnerved by the whole situation.

Another health worker said:

> I went home and luckily avoided a lot of my friends. I just felt, I felt really dirty this whole time. When I went home I just felt like my skin was crawling. I basically went home and had a shower and laid low the next couple of days. I didn't go out really or do anything. I just kind of kept to myself. I had a roommate as well so I was trying to avoid her. I was just so afraid. I thought: "I don't want to spread this to anyone." … I don't know if I was confident I was going to become infected. I was terrified of it. I think we all were.

A third health worker said:

> I remember that I had this mask on and how it was wet and had come down off my nose, how it didn't fit properly. And I was feeling scared that I was going to get SARS.

These fears were realized in the coming days.

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[411] Cluster of Severe Acute Respiratory Syndrome Cases, pp. 433-436.

Over the next week, two respiratory therapists, three nurses and a physician who cared for Mr. Z around the time he was intubated began developing SARS symptoms. As noted earlier, two other physicians who examined Mr. Z on the SARS isolation unit and an X-ray technician were also infected.

A CDC investigation said:

> During April 15-21, nine HCWs who had cared for this patient around the time he was intubated had illnesses consistent with the World Health Organization case definition for suspect or probable SARS; another two HCWs had symptoms that were not consistent with the case definition. Six of these 11 HCWs had been present during the intubation procedure.[412]

The CDC Is Asked to Investigate

By the evening of Friday April 18th it was clear to officials leading the fight against SARS that something had gone terribly wrong at Sunnybrook Hospital.

As one hospital official said:

> That was Friday night and we had the conference call … We knew people at Sunnybrook were now sick.

An investigation by an outside agency was needed. As one hospital official who recommended that an outside agency be brought in to help recalled saying to collagues during a conference call:

> We need fresh bodies to come in and look at this because we do not have the time to do it, and our health care workers, we have to do it for them, we need somebody fresh to come in and their only job is to come in and work out this problem with transmission to health care workers through precautions.

Everyone agreed. The CDC was contacted that weekend, and it assigned a team to investigate the events of April 13th.

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[412] Cluster of Severe Acute Respiratory Syndrome Cases, pp. 433-436.

The composition of the CDC team is worth noting. As would be expected, it included field epidemiologists and infection control practitioners. But unusually for Ontario it also had an occupational hygienist from the National Institute for Occupational Safety and Health (NIOSH), part of the CDC.[413] That an occupational hygienist was an integral component of the team was not an anomaly at the CDC. Worker safety has a high profile at the CDC, and the expertise of occupational hygienists is highly valued. As one senior CDC official told the SARS Commission:

> Over that weekend we started talking about the makeup of a team and right away we had the idea that we would want a NIOSH person.

Ministry of Labour officials told the Commission they were not aware that a CDC-NIOSH investigative team was in Toronto to look into the events of April 13.

It is unfortunate that the Ministry of Labour was not asked by the Provincial Operations Centre to participate in the investigation. Not only is the ministry the workplace regulator in Ontario, it has first-class worker safety experts, including some who before SARS helped set the Canadian Safety Association's respirator standards.[414] It was another regrettable example of how the Ministry was sidelined during SARS and how little awareness there was in the health system of the labour ministry's expertise and responsibilities.

It is also symptomatic of the general lack of awareness in the Ontario health system during SARS of the importance of workplace safety expertise. As one hospital, which was unusual in Ontario in having worker safety experts on staff before SARS, said in its submission to the Commission:

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[413] NIOSH's duties include:

- Investigating potentially hazardous working conditions as requested by employers or employees.
- Evaluating hazards in the workplace, ranging from chemicals to machinery.
- Creating and disseminating methods for preventing disease, injury, and disability.
- Conducting research and providing scientifically valid recommendations for protecting workers.
- Providing education and training to individuals preparing for or actively working in the field of occupational safety and health.

See: http://www.er.doe.gov/ober/humsubj/appendix_b.pdf

[414] See Canadian Standards Association, Z94.4-02 Selection, Use, and Care of Respirator, (Toronto: CSA, April 1, 2003).

> It was interesting to note that an occupational hygienist was part of the CDC team called in to help review how SARS was being spread; earlier recognition and utilization of local professional resources (e.g. through the Canadian Registration Board of Occupational Hygienists, the University of Toronto graduate program in occupational hygiene, etc.), may have helped contain the problem much sooner.

Random Errors Ruled Out

The CDC team's key finding was that the nine health workers probably got SARS because of systemic problems.

Individual error might make sense, said the CDC, if one or two people out of 11 who treated Mr. Z on the morning of April 13th got SARS. But this was unlikely when it involved nine of 11. This suggested a systemic cause that affected all nine workers equally.

One CDC official told the SARS Commission:

> A lot of human error is systemic, as you know, where we have a procedure that's wrong or something like that. But there's also human error which is not totally random but it's individual specific: It's an individual who feels like he doesn't need to comply with appropriate protection; or one health care worker had a beard and therefore the thing didn't fit well. But if you're going to say that for 11 health care workers then that becomes problematic because you're saying this is happening in succession in 11, in a close sphere, so it's probably a systemic problem.

Another CDC official said:

> If this were a breach in some of the protection that was being offered, it had to be a systematic breach, we can't argue there was a random breach and there is the possibility that just the level of contagion, if you want to call it, the level of virus load in the environment exceeded the level of protection that these health care providers were using.

Systemic Problems Identified

The CDC report identified a number of systemic flaws.

Instead of N95 respirators,[415] as required in the U.S., the CDC found the affected health workers at Sunnybrook wore PCM 2000 masks.[416] They have the same specifications as an N95, but their performance has not been independently tested and certified.

A member of the CDC's investigative team told the Commission:

> The masks that we were told that they used during those events was what we consider more of a surgical mask so it didn't have, it wouldn't have had the filtration efficiency of an N95.

During SARS, directives required health workers to use N95 or equivalent respirators. The term "equivalent," however, was defined very differently by Health and Labour. This issue is discussed in greater detail in a later chapter entitled "The Mask."

The Ministry of Health, reflecting Health Canada guidelines,[417] said PCM 2000 masks, even though they had not been independently tested, were the same as N95 respirators. A ministry document issued just days before the events of April 13 said:

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[415] Using highly efficient filtering materials, N95 respirators are one of the nine types of disposable particulate respirators that are independently tested and certified by the National Institute for Occupational Safety and Health in the United States, which is part of the Centers for Disease Control. "The N indicates that the respirator provides no protection against oils and the 95 indicates that it removes at least 95% of airborne particles during "worst case" testing using a "most-penetrating"-sized particle." Source: Yassi et al., "Research Gaps in Protecting Healthcare Workers From SARS," *Journal of Occupational and Environmental Medicine*. DOI: 10.1097/01.jom.0000150207.18085.41.

[416] "Interviews with affected HCWs indicated that they all had worn the recommended personal protective equipment each time they entered the patient's room, including gown, gloves, PCM2000™ duckbill masks (Kimberly Clark Health Care, Roswell, Georgia), and goggles with or without an overlying face shield." "Cluster of Severe Acute Respiratory Syndrome Cases Among Protected Health-Care Workers – Toronto, Canada, April 2003", Morbidity and Mortality Weekly Report, May 16, 2003 / 52(19);433-436.

[417] See: Health Canada, "Infection Control Guidance for Respirators (Masks) worn by Health Care Workers – Frequently Asked Questions – SEVERE ACUTE RESPIRATORY SYNDROME (SARS)," Revised 2003-06-05:

> 4. Health Canada recommends wearing an N95 mask or equivalent. What does "equivalent" mean?

> Question: Are the PCM 2000, P95 and R95 masks equivalent to the N95 mask?
>
> Answer: Yes.[418]

Labour took a very different position: A respiratory protective device was the equivalent of an N95 only if it was independently tested by NIOSH or to NIOSH standards by an equivalent body. "Equivalent" also applied to higher-rated approved respirators like the N99 or N100, which could be used if N95 respirators were in short supply.[419] One Ministry official told the Commission:

> Now, if somebody uses an N99 or an N100, they are equivalent and would provide even higher protection.

This approach was reflected in a document Labour prepared for its staff:

> Problem: Refusal to work with or serve a patient, client or inmate with

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It should be noted that NIOSH is an American agency, and there is no equivalent agency in Canada which certifies masks for industrial use. N95 masks have been tested and certified by NIOSH. For more information on NIOSH, testing and certification, visit http://www.cdc.gov/niosh/homepage.html

Health Canada recognizes that many institutions and other health settings may not use N95 masks that are NIOSH approved, and considers masks fulfilling the following requirements as the "equivalent" to NIOSH certified N95 masks:

- Filter particles one micron in size or smaller
- Have a 95% filter efficiency
- Provide a tight facial seal (less than 10% leak).

5. Are N95 masks considered an "equivalent" to the TB masks?

Yes, NIOSH approved N95 respirators/masks or equivalent meet and exceed the TB mask criteria.

[418] http://www.health.gov.on.ca/english/providers/program/pubhealth/sars/docs/qa_041103.pdf

[419] The minimum efficiency of each tested filter is to be greater than or equal to 99.97% for N100 filters and 99% for N99 filters.

> possible SARS and symptoms e.g. fever, cough, history of travel or contact with confirmed SARS case, in healthcare setting or in corrections facilities.
>
> Solution: Health care facilities and corrections facilities must implement the infection control measures required by MOHLTC and public health units. These include gloves, gowns, **N95 or better respirators**, eye protection, handwashing facilities, plus the appropriate training and respirator fit testing.[420] [emphasis added]

The Ministry of Labour's position is the one that should have counted. Labour regulates workplace safety, sets workplace safety standards, and enforces worker safety laws and regulations. None of these statutory responsibilities falls under the Ministry of Health's ambit. And yet, in a dramatic example of how the Ministry of Labour was sidelined during SARS as a result of systemic flaws, its position on respirator equivalency was never spelled out in Provincial Operations Centre directives, or otherwise conveyed to health care institutions.

Amid this systemic confusion and lack of clear direction from the workplace regulator, it is not surprising that a number of leading Toronto hospitals,[421] including Sunnybrook, believed PCM 2000 masks were the same as an N95, and sufficient to protect their workers.

On a related worker safety issue, the CDC report into the events of April 13 also noted that:

> . . . individual workers had not been fit tested.

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[420] Document entitled "SARS Scenarios" which was attached to a copy of the Ministry of Labour's SARS protocol, which it provided to the SARS Commission in the course of its submission at the public hearings.

[421] For example, see: Toronto Medical Laboratories/Mount Sinai Hospital Microbiology Department, Procedure Manual, Revised as at December 2003, p. 136. http://microbiology.mtsinai.on.ca/manual/ls/mi_ls.pdf; An article by experts at the University Health Network and Toronto West Hospital said: "The PCM 2000 Tuberculosis masks meet the N95 filtration criteria and fit the majority of wearers adequately." Kamming et al., Anaesthesia and SARS, "*British Journal of Anaesthesia*", 2003, Vol. 90, No. 6, 715-718. An article by Toronto experts in the *Canadian Journal of Anesthesia* contained the following description in a footnote for a PCM 2000 mask: "N95-equivalent mask". Source: "Intubation of SARS patients: infection and perspectives of healthcare workers", *Canadian Journal of Anesthesia*, ANESTH 2006 / 53: 2.

That the health workers who cared for Mr. Z were not fit tested does not reflect on Sunnybrook but reveals a system-wide problem.

Fit testing had been required by Ontario law since 1993.[422] Yet, for the first two months of the outbreak, this legal requirement was not explicitly spelled out for hospitals[423]. Many hospitals officials told the Commission they only became aware of this when the May 13, 2003, directives[424] were issued. This was a full month after nine health workers contracted SARS at Sunnybrook while caring for Mr. Z.

Hospitals should have been told from the start that if health workers were required to wear N95 respirators they had to be meet statutory safety equipment requirements, including fit testing.[425]

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[422] Section 10 of the Ontario Regulation 67/93 requires:

> 10. (1) A worker who is required by his or her employer or by this Regulation to wear or use any protective clothing, equipment or device shall be instructed and trained in its care, use and limitations before wearing or using it for the first time and at regular intervals thereafter and the worker shall participate in such instruction and training.
>
> (2) Personal protective equipment that is to be provided, worn or used shall,
>
> (a) be properly used and maintained;
>
> (b) be a proper fit;
>
> (c) be inspected for damage or deterioration; and
>
> (d) be stored in a convenient, clean and sanitary location when not in use. O. Reg. 67/93, s. 10.

[423] Although early directives referred in passing to fitted masks, they did not reference the legal requirements for fit testing and they did not emphasize the importance of fit testing.

[424] All six directives issued that day contained the following language:

> Personal protective equipment must be properly used and maintained
>
> consistent with the *Occupational Health and Safety Act* Reg. 67/93 s.10. N95
>
> or equivalent masks must be qualitatively fit tested to ensure maximum effectiveness. (See NIOSH website at www.cdc.gov/niosh -Publication No.99-143).

[425] Section 10 of the Ontario Regulation 67/93 requires:

> 10. (1) A worker who is required by his or her employer or by this Regulation to wear or use any protective clothing, equipment or device shall be instructed and trained in its care, use and

However, the system that led the response to SARS did not give the Ministry of Labour a level of oversight over workplace safety issues, including references in the directives, commensurate to its statutory duties and responsibilities.

What compounded the systemic problems related to N95 equivalency and fit testing was the decision by the Ministry of Labour not to conduct any proactive inspections until June 2003. Proactive inspections would have permitted it to ensure that hospitals were aware of what was required under Ontario laws and regulations. In B.C., as noted earlier, the WCB started conducting workplace inspections in early April 2003 to ensure workplace standards were being upheld.

New Directives Issued

With the benefit of hindsight, we can see that even though SARS intubations were inherently risky, the dangers of intubations were not quickly recognized in Ontario.

As noted earlier, the intubation of Mr. M on March 17, 2003, at Scarborough Grace infected four health workers. One infected his daughter; another, a household member:

> In the ICU, intubation for mechanical ventilation of [Mr. M] was performed by a physician wearing a surgical mask, gown and gloves. He subsequently acquired SARS and transmitted the infection to a member of his family. Three ICU nurses who were present at the intubation and who used droplet and contact precautions had onset of early symptoms

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limitations before wearing or using it for the first time and at regular intervals thereafter and the worker shall participate in such instruction and training.

(2) Personal protective equipment that is to be provided, worn or used shall,

(a) be properly used and maintained;

(b) be a proper fit;

(c) be inspected for damage or deterioration; and

(d) be stored in a convenient, clean and sanitary location when not in use. O. Reg. 67/93, s. 10.

> between Mar. 18 and 20. One transmitted the infection to a household member.[426]

Three days later, on March 20, 2003, a warning about the dangers of intubations was issued by the Centers for Disease Control.[427]

Four more days later, on March 24, three health workers at Mount Sinai were infected during the intubation of Mr. N:

> SARS developed in three of the five persons present during the endotracheal intubation of the patient. During this procedure, the patient's respiratory secretions were splashed onto the uncovered cheek of one of the health workers. No other healthcare worker reported direct skin exposure to the patient's bodily secretions at any time during his admission. Two of the three persons in whom SARS developed after the endotracheal intubation wore a gown, surgical mask, and gloves; one healthcare worker wore a gown, gloves, and N95 mask.
>
> Of the two health workers present during endotracheal intubation in whom SARS did not develop, one was a postgraduate medical trainee who assisted with manual ventilation (bag-valve-mask ventilation using a Laerdal bag) and was positioned to the side of the patient rather than directly over the patient's head. This health care worker wore gown, gloves, and surgical mask during the procedure. The second worker was a respiratory therapist who helped prepare the necessary equipment while wearing gown, gloves, and an N95 mask.[428]

In their presentation to the SARS Commission's public hearings, Ontario Nurses' Association and Ontario Public Services Employees Union noted that, in the U.S., the first directives for intubations had been issued on March 20, just days after the Scarborough Grace incident, and four days before the intubation of Mr. N:

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[426] Varia et al., "Investigation of a nosocomial outbreak of SARS.", p. 290.

[427] Centers for Disease Control, "Infection Control Precautions for Aerosol-Generating Procedures on Patients who have Suspected Severe Acute Respiratory Syndrome (SARS)," March 20, 2003.

[428] Scales et al., "Illness in Intensive Care Staff after Brief Exposure to Severe Acute Respiratory Syndrome," *Emerging Infectious Diseases*, Vol. 9, No. 10, October 2003.

> Directives to All Ontario Acute Care Hospitals for High-risk procedures in Critical Care Areas During SARS Outbreak, April 29 (Interim), May 1: Between April 15 and 21, nine HCWs at Sunnybrook and Women's Hospital were diagnosed with SARS following exposure to a SARS patient during a complex and prolonged medical intervention. Approximately a week later, the POC released these Directives to address the exposures that may take place during treatment and diagnostic procedures that can produce airborne respiratory secretions carrying SARS. The U.S. Centers for Disease Control published its first SARS-related document concerning aerosol-generating procedures on patients March 20.[429]

The first Provincial Operations Centre directive on how health workers who participated in intubations could protect themselves was not issued until April 29, 2003. These interim directives were superseded on May 1, 2003, and May 13, 2003.

ONA and OPSEU told the SARS Commission:

> One of the critical aspects of SARS is that it is primarily a respiratory infection, often requiring a variety of diagnostic and treatment procedures that generate airborne respiratory secretions. We question why these Directives were issued more than a month after the SARS emergency was declared and after nine HCWs were infected during a procedure where the risks of exposure were known to be greater.[430]

One study said:

> The first provincial guidelines for intubation were published one month after the onset of SARS 1. These guidelines focused on both the intubation procedures ("intubate while the patient is sedated and paralyzed if medical condition permits") and personnel requirements ("the most experienced staff member should perform the intubation with a maximum of two to three persons present"). The time course suggests a lag in gathering local knowledge and providing feedback to practitioners. Responses from the HCWs suggest that the process underlying the development of guidelines was suboptimal as it did not incorporate the

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[429] SARS Commission Public Hearings, November 17, 2003.

[430] SARS Commission Public Hearings, November 17, 2003.

experiences of front-line staff, and guidelines were inconsistently implemented.[431]

The Commission finds with the benefit of hindsight, that, there was a lack of systemic awareness in Ontario on April 13, 2003, of the dangers of SARS intubations, and a concomitant lack of special procedures for intubating SARS patients.

Conclusion

The problems revealed by the events of April 13 were the result of inadequate systems.

With some exceptions such as the Hospital for Sick Children, the health care system's capacity to protect its workers was generally inadequate. The health system had too little worker safety expertise, too few worker safety resources, and too little knowledge of Ontario worker safety laws and regulations.

By April 13, 2003, more than a month into the outbreak, the system that responded to SARS, through the fault of no individual or institution, had failed to make it clear in Provincial Operations Centre directives that non-certified devices like PCM 2000 masks were not the equivalent of an N95 respirator, and that N95 respirators had to be fit tested.

Five weeks into the outbreak, hospitals lacked clear regulatory direction on what personal protective equipment to give their workers and what needed to be done so this equipment was safely used and provided the required protection

The events of April 13 also reveal that the health system was unable to react to earlier danger signals about intubations, and to develop procedures quickly enough to ensure these life-saving procedures could be done safely.

This highlights another difference in the experience of Vancouver and Toronto.

As noted in an earlier chapter, B.C. had made a much stronger commitment to work safety in health care before SARS. This made it better prepared to combat this new disease.

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[431] Caputo et al, "Intubation of SARS patients: infection and perspectives of healthcare workers," in *Canadian Journal of Anesthesia*, (2004) 51:A43.

It is worth recalling that on March 8, 2003, more than a month before the events of April 13 at Sunnybrook and even before SARS was itself identified, the B.C. index patient was intubated at Vancouver General Hospital. There was no transmission to staff.

Many of the circumstances in the intubations in Vancouver on March 8 and Sunnybrook on April 13 were different, and it is not possible to directly compare them.

Nevertheless, what can be said is that an intubation was safely conducted in B.C. in a health system oriented to worker safety at the start of the SARS outbreak before the dangers of SARS or of intubating SARS patients were known.

Conversely, in a health system that was woefully unprepared to protect workers, nine Sunnybrook staff got SARS more than a month into the outbreak despite all that was known by then about safeguarding workers, and despite the facts that two cases had occurred in the interim in Toronto, highlighting the dangers of intubating SARS patients, and that the CDC had issued its warning.

WHO Travel Advisory

On April 23rd, the World Health Organization, without consulting Canada, issued an advisory asking people to avoid travel to Toronto unless absolutely essential.[432] The World Health Organization is a United Nations body with headquarters in Geneva. It is well known to the public in Europe and in other parts of the world but not in North America.

The advisory had a powerful influence. Countries around the world took notice, and even Nova Scotia briefly warned residents not to visit Toronto.[433] The WHO warning was criticized by Ontario and federal experts as unjustified. It was lifted a week later, after Ontario's health minister, Tony Clement, and a group of experts flew to Geneva to convince UN officials that Toronto was safe.

Although the advisory was in force only a week, it had a lasting economic effect. Toronto lost an estimated $950 million. The travel and tourism sector accounted for $570 million of that total.[434]

If any travel advisory was needed, it came at the wrong time. When it was issued, officials on the front lines felt the outbreak was abating, and they closed ranks in condemning the advisory. When the advisory was lifted, it had the unfortunate effect of creating a false sense of euphoria, causing many to let their guard down prematurely.

One expert closely involved with the SARS response described the advisory's effect to the Commission:

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[432] Beijing and Shanxi Province in China were also included in the advisory. Advisories had already been issued for Hong Kong and China's Guangdong province.

[433] Just hours after the WHO issued its travel warning, the government of Nova Scotia also advised people to put off any non-essential travel to the city. Later in the day, Nova Scotia Health Minister Jane Purves cancelled the warning after speaking with federal and Ontario health officials (CTV News, April 23, 2003).

[434] Conference Board of Canada, "The economic impact of SARS," special briefing, May 2003. The Commission's first interim report also dealt with the economic impact of SARS, in Appendix E, pp. 219-222.

> The travel advisory was sort of a shift in the whole psychology in the city, and all of a sudden everyone was together. I mean when the travel advisory came down it was the City, the Province, Health Canada, everybody was outraged and fighting together, and when the travel advisory turned back, everybody celebrated about that, and then, once everybody was getting back to normal . . . there should have been somebody that says, well what do you mean it's getting better? Nobody questioned it. [Dr.] Jim Young went off to China to talk about our successes and how we controlled it and [Dr.] Bonnie [Henry] went with him and [Dr.] Tony [Mazzulli] went with him and nobody said, well how do you know its over, including myself. None of us said that, well, just because. And it is such a simple question to ask and we blew it. I mean, it is just amazing that everyone blew it.

The advisory was a total surprise to Canadian officials.[435] Health Canada sent a formal protest, and Toronto Mayor Mel Lastman reacted angrily. He told a news conference:

> I've never been angrier in my life. I'm shocked. The medical evidence before us does not support this advisory. I can't believe [the WHO] issued a press release saying they're not coming back for three weeks. I want them to investigate Toronto tomorrow. I think they are doing this city and this country a disservice.[436]

Two factors seem to have generated the WHO warning. The organization was used to dealing with the federal government. As with other countries, it received official information from the central government. In Canada's case, the serious communications lag between Ontario and Ottawa got in the way. The second factor was that the travel warning was the first ever issued by the WHO itself rather than by member countries. The WHO saw it as a "rollout" for its new role under the International Health Regulations (IHR) for diseases spreading internationally, then under revision.[437] As a result, the assessment procedures used by the WHO were far from perfect. For example, there was considerable confusion about the definition of a SARS case. As Naylor noted, the symptoms included in the WHO's definition may not have been the most appropriate:

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[435] A high-ranking WHO official told the Commission that an advance notice of the advisory was sent by email to the federal government but was either misdirected or not picked up. The Commission could not confirm this account independently.

[436] CTV News report on April 23, 2003, news conference.

[437] Mary Ann Liebert, *Biosecurity and Bioterrorism: Biodefence Strategy, Practice, and Science* 1, 4 (2003). Interview with Dr. David L. Heymann, MD, Representative for Polio Eradication and Former Executive Director, Communicable Diseases, World Health Organization, pp. 234-235 (Liebert Interview).

> A further concern has been that the WHO case definition did not distinguish between Toronto, as a so-called "SARS affected area," and specific exposure sites that were publicized by both provincial and federal public health officials . . . This sometimes led other countries to treat individuals who had visited Toronto or even transited through Toronto's Pearson Airport as potential SARS cases.[438]

On the federal-provincial issue, the Commission noted in its first interim report:

> If a greater spirit of federal-provincial cooperation is not forthcoming in respect of public health protection, Ontario and the rest of Canada will be at greater risk from infectious disease and will look like fools in the international community.[439]

The Naylor Report also noted the glitches in reporting procedures between the various levels of government:

> Although Health Canada regularly transmitted information to WHO during the SARS outbreak, it was unable to supply as much detail as was formally requested. The absence of formal reporting processes between municipal, provincial and federal governments contributed greatly to deficiencies in data acquisition and sharing. Some experts told the Committee that Canada was simply unable to maintain the confidence of WHO due to incomplete accounting of the outbreak and control measures as well as obvious inter-jurisdictional tensions.
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> Health Canada officials have stated that they repeatedly asked the Province of Ontario for more detailed information regarding the cases of SARS . . . The federal perspective is that Ontario continued to submit incomplete data during the first part of the outbreak, and federal officials often gained new information from Ontario's daily press conference rather than through intergovernmental channels . . . The perspective of

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[438] Naylor Report, p. 200.

[439] SARS Commission, first interim report, p. 163.

> the Public Health Branch of the Ontario Ministry of Health and Long-Term Care is sharply different.[440]

Dr. Naylor noted that public health officials and Health Canada gave his committee sharply divergent view on how well information flowed but:

> Multiple informants noted that relationships among the public health officials at the three levels of government were dysfunctional.[441]

The communications difficulty between various levels of government was not unique to Canada. In an interview on October 28, 2003, after the SARS outbreak, Dr. David L. Heymann of the World Health Organization said:

> If there was one difficulty that all countries had, it was relationships between federal and state- or provincial-level governments. China indicated to us that the reason they couldn't advance as rapidly as they wanted to was because of difficulties between the provinces, to which public health had been delegated, and the central government, which only had legislation for yellow fever, cholera and plague. They didn't have legislation that would require a provincial level to work with them on this issue. Our official relations are, of course, with central governments rather than with peripheral governments, so communications were also difficult between WHO and federal[442] governments. In Canada, provincial governments would sometimes provide information directly to WHO and not to their country.[443]

A WHO official interviewed by the Commission also noted the problems in China, and added:

> The same issues occurred in Canada but it was compounded, I think, or became difficult, because our relationship is with the federal government and that's where we work and we know all the people in the federal government and we actually had been working with them in our global alert and response preparedness . . . The issue came when the province,

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[440] Naylor Report, pp. 201-202.

[441] Naylor Report, p. 29.

[442] Naylor Report, pp. 201-202.

[443] Naylor Report, p. 236

> Ontario, was many times more aggressively reporting to us, or trying to report to us at WHO and bypassing in some instances the federal government. And at the same time some of the messages that we thought we were providing to the federal government we felt weren't getting through to the state [provincial] government. So those were some of the issues that were perceived here at WHO.

The WHO decided to act on the basis of the information it had. This included a perception that infected people were travelling internationally and that the outbreak in Canada may not be under control. WHO officials used the International Health Regulations (IHR) as the authority for their decision. The IHR are a protocol for dealing with public health emergencies of international concern. They were first adopted by the WHO in 1951, revised in 1969 and again in 2005, unanimously, by the 192 member countries after a decade of discussion.[444]

In the interview after the SARS outbreak, Dr. Heymann said:

> The SARS outbreak was the first that really began to spread internationally. And when something spreads internationally, that's when the International Health Regulations come into force. And so, the SARS outbreak was a rollout of the way we would hope that the IHR would work in the future: making evidence-based travel recommendations; helping countries contain the outbreak; getting together networks of clinicians, laboratory persons, and epidemiologists to put into the public domain the necessary information.

For those struggling to contain the outbreak, the advisory seemed to go against the facts on the front lines of SARS. As one expert told the Commission:

> So the 22nd [of April] things were actually starting to look good. I remember Dr. [Allison] McGeer, was, I think it was on the Tuesday night, we were in the office, I said it's over, this thing is over. And then the next day the WHO announces that they're going to put a travel advisory on us and that just didn't make any sense. And everyone was quite irate about that, and on the 24th, we had a conference call with the WHO… [Dr. Heymann] I think he was either in Bangkok or he was in

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[444] Michael G. Baker, David P. Fidler, "Global public health surveillance and new international health regulations," *Emerging Infectious Diseases Journal*, (July 2006).

> Asia someplace. So Dr. Heymann wasn't there. There was I think three people from the WHO that were on the line. And it was amazing because one is they obviously had no criteria for what made a decision to issue a travel advisory, so no criteria. It was an international group. And two is that the criteria or the argument they were trying to build for the rationale of issuing a travel advisory made no sense. They actually started to invoke rumours about other people that had the disease that had gone from Toronto to other countries, that hadn't even been confirmed and they were starting to bring that up as a reason for the advisory… There was the Philippines story, it was just in its early stages.[445]But there had been somebody in either someplace in Eastern Europe, supposedly had landed with a respiratory infection from Toronto, it never turned out to be anything. But they were starting to invoke those kinds of excuses that people were leaving Toronto with disease and the only way they can control this is by stopping people coming into the City.
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> So the arguments that I heard about the travel advisory, one was WHO was upset with Health Canada because there weren't getting the information they needed to them fast enough. That they didn't hear about the BLD community except through the media …And that Health Canada had not instituted airport precautions to their liking. So those were kind of three rumours that were floating around as to why WHO was upset with Canada and it might have been one of the reasons why they issued the travel advisory …They were getting a sense that there was a data lag of several days and maybe even longer between what was happening in Toronto and what Health Canada was giving them and part of that may have been the slowness going from the Ministry to Health Canada.

Dr. James Young, Commissioner of Public Security, also questioned the timing of the advisory. He noted that the peak of new cases originating from the BLD group had already passed. He told the Commission:

> The religious group, the infection of hospital [a] care worker over Easter weekend and fact, the WHO advisory which came well after we had already understood that we had the cluster underway. What I would point out to you, Justice Campbell, is that, if you look at where the emer-

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[445] The transmission of SARS to the Philippines by a health care worker from Toronto is described in the Lapsley Family Doctors Clinic story in this report.

> gency was declared and you look at the cluster of cases around that, those cases, in fact, probably had already occurred as we were declaring the emergency and so that the people were already infected and the question or the issue was to stop the infection at that point and stop it from spreading and stop the graph from continuing to go upward. At the end of SARS I, we had had 20 days with no cases. That is the period the WHO were advising.[446]

After the outbreak was over, when questioned about the advisory by the Commission, one WHO official explained it as follows:

> What we did was we looked at the criteria and then we looked at other factors. Canada was also having some cases, which were not traced back to other cases at this time yet. Maybe that they were traced back later, but there were cases that one criterion was environmental transmission, there were other cases that were not traced back to other cases, it could indicate environmental transmission. That was one of the criteria that they met, and in addition the criteria of the magnitude of the outbreak, and then in looking over other factors, it appeared to us that there were still cases which were travelling internationally from Canada elsewhere and that there was a poor control of the outbreak because of that. That wasn't optimal control of the outbreak because those people were traveling . . . I don't want to comment on the quality of work in Canada. I will say that from the information we had, we felt tnat contacts were not, cases were not all being traced back to contact. That the outbreak was of the magnitude that caused concern and that the control was not keeping people who were infected in Canada . . .
>
> Now on the criteria, you said that we judged you on the case that was exported. That was an indication, that was not because it was exported, it was because it was an indication again that this outbreak may not be under control. I want to stress that because that was the criteria, checking cases for making sure they had a contact, making sure that there wasn't anything in the environment and if there was any indication that they there might be, to be very concerned.

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[446] SARS Commission Public Hearings, September 30, 2003

Some in Ontario questioned whether there was a political basis for the advisory. As Dr. Naylor reported:

> Some informants have since speculated that WHO officials were concerned about the appearance of a double standard favouring Toronto. WHO travel advisories had already been issued for Hong Kong and Guangdong, and advice against non-essential travel to Beijing and China's Shanxi Province was given on the same day as the Toronto advisory.
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> Singapore had 189 probable cases on April 23, 2003, compared with 140 for Toronto, as well as transmission at a community market. Epidemic curves comparing the outbreaks in Toronto and Singapore are strikingly similar (see Chapter 11). However, Singapore's management of the outbreak, not least its communications strategy, was superbly organized and reflected a remarkable degree of social solidarity that could not have been lost on WHO. The Committee has also learned that regional WHO offices had different levels of interaction with nations affected by SARS, and were therefore more or less able to vouch for the containment of the outbreak.[447]

When asked if there was a political basis for the advisory, a WHO official responded as follows:

> I would say that [politics] was never a factor in our decision-making process with the director general. I am aware that there were accusations that that was the reason that the WHO did this but looking over the criteria, we came to the conclusion that Canada needed to be on that list because of the conditions of the outbreak and because we had information that people were still travelling internationally from Canada with the disease, with probably disease.

Dr. Heymann, in a post-SARS interview, made the following comments about the travel alert:

> The most difficult time for all of us was early on the 15th of March. We

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[447] Naylor Report, p. 37.

> knew this outbreak was spreading internationally. We knew from other emerging infections the economic impact that these diseases can cause. And we knew that we would have to have solidarity in the world if we were to contain this disease. When we made our alert, we had not been able to speak with all of our governments, nor with our advisory bodies. We made that alert on a Saturday, based on the evidence that the disease had gone to Canada, Singapore, Hong Kong, Vietnam and New York City. And we had to make a decision rapidly. The concern was that the rest of the world would not agree with this decision. The rest of the world did agree. That, in itself, was reassurance[448].

Canada felt otherwise. Even long after the end of the SARS outbreak, federal and provincial officials questioned the basis for the advisory and do not agree with the WHO officials who defend it. The travel advisory brought into sharp focus the need for effective communication between the province and the federal government and the need to present a single voice to the outside world. As the Commission noted in its first interim report, and as discussed above, there were concerns in the international community about the timeliness and accuracy of information coming from Canada. This certainly contributed to the travel advisory. In its first interim report, the Commission said:

> There are sincerely held views on each side, the province thinking it was providing all it could and the federal government thinking otherwise. Apart from any underlying problems of attitude, there was an obvious breakdown in communication, which is hardly surprising given the inherent difficulties of federal-provincial cooperation and the complete lack of any preparedness or any existing system to ensure an effective flow of information in a time of crisis.
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> This analysis is supported by the anecdotal recollection of others involved in the outbreak. There was a damaging combination of problems: lack of information systems, lack of preparedness, lack of any federal-provincial machinery of agreements and protocols to ensure cooperation, all possibly overlaid by a lack of cooperative, collaborative spirit in some aspects of the Ontario response.
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> The federal official quoted above described the impact of this lack of

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[448] Liebert interview, p. 235.

> collaborative information flow, suggesting it may have affected the international community's perspective of how well the outbreak in Ontario was being handled:
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> What we were lacking, as a result of whatever, in Ontario, was a real sense that they, that Ontario was able to present a daily picture in a dynamic sense of what was occurring, over and above just the figures. And if we attempted to do that, which is what we did do, unfortunately, it's another aspect of our relationship which I mentioned before, the lack of a clear message every day from Ontario, because there were numerous spokespersons, never sort of confirmed, was never able to basically support what our suppositions were, however late they ended up being because of lack of information. And that inevitably led to a sense of confusion in the outside world, WHO and other countries, as to how far we had this under control.[449]

One of the most troubling aspects of the Ontario advisory was that it took government officials, the public and experts working to battle SARS by surprise. How could it have happened that no one in Canada was aware that an international health organization was about to warn against travel to Canada's largest city? This underscores the need to have a close liaison, especially in times of crisis, with bodies like the WHO. It also calls for a system that would allow quick sharing of information on potential advisories.

It was only after the event that government officials travelled to Geneva to argue their case. As a result, the WHO announced on April 29 that it would withdraw the advisory the next day, seven days after it had been issued.[450] This raises the question whether the travel advisory would have been issued at all if high-level government contact had been maintained with the Geneva-based organization.

The announcement lifting the advisory pointed to an agreement by Canada to implement screening measures at airports.[451] It remains unclear to what extent the absence of airport screening contributed to the decision to impose a travel advisory and to what extent other factors were part of the decision. Clearly, the WHO did not have a good picture of the events in Canada. Ongoing contact with the UN body at the appropriate level and with relevant information about Canada's progress in the battle against SARS might have avoided the blacklisting of Toronto. Canada is a full-fledged and respected member of the WHO, and this should not have been difficult. As already noted, this was the first time that the WHO issued such an advisory, and the advisory seems to have been fuelled by erroneous information.

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[449] 449. SARS Commission, first interim report, pp. 67-68.
[450] 450. WHO web page, Update 42, April 29, 2003.
[451] 451. WHO web page, Update 42, April 29, 2003.

As Dr. Naylor pointed out, the WHO criteria were far from perfect and much of the information on which they were based was incorrect:

> The WHO travel advisory criteria themselves came under intense criticism – they included the presence of at least 60 probable SARS cases, export of SARS to other countries, as well as community spread. Yet none of these criteria have ever been validated as reasons for issuing a travel advisory. For example, the absolute number of cases in an outbreak is largely a function of the size of a community. Issuing a travel advisory does not prevent residents of a SARS-affected area from leaving and taking SARS with them. Indeed, of the six people thought to have spread SARS from Canada, only one was a visitor returning home after a trip to Canada. Finally, "spread into the community" was never explicitly defined – if a nurse with SARS infects his/her spouse, is this considered community transmission?[452]

Government officials hailed the WHO's reversal as a victory, a victory that, as noted by one expert involved in SARS, created a sense of false euphoria and arguably led to precautions being relaxed prematurely. Ontario Health Minister Tony Clement stated:

> We're extremely pleased the World Health Organization has rescinded its travel advisory for Toronto . . . I want to thank the organization for taking the time to meet with us face to face and re-examine the compelling evidence that shows how Ontario has been working successfully to contain SARS.

Dr. D'Cunha, then Chief Medical Officer of Health for Ontario, said:

> Today's ruling reflects the tremendous progress we have made in implementing our containment measures against SARS . . .

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[452] Naylor Report, p. 37.

But SARS was not contained. It was simmering at North York General Hospital, spreading to staff and other patients. Less than one month later, the second outbreak would explode into the open, causing more sickness and deaths.

Victory Declared

In May 2003, the government declared victory over SARS in a series of measures that led to the relaxation of precautions on May 13 and the lifting of the provincial emergency on May 17.

In fact, SARS was still with us, spreading undetected at North York General Hospital and ready to break loose with a vengeance when precautions were relaxed. How could Ontario declare victory when in fact it was on the edge of a fresh outbreak that would burst into public view on May 23, kill 17 more people and leave another 118 sick with SARS?[453]

The answer is not easy to find. Everyone wanted SARS to be over, and this desire no doubt influenced the decision to declare victory. The most identifiable cause for SARS II may be the lack of any formal effective surveillance program.

Dr. Richard Schabas put it this way at the Commission's public hearings:

> Unfortunately, what we did was we flipped from a state of SARS panic to a state of SARS denial because as SARS I was petering out, we made the crucial error of not introducing any programme of active surveillance for SARS.
>
> In fact, it was worse than that . . . I believe on May 8th the city health department announced that the outbreak was over. On May 12th the Chief Medical Office of Health for Ontario was quoted in the *Toronto Star* as saying "it was preposterous" – his word, "preposterous" – that someone could have acquired SARS in Toronto in late April . . . We have to realize that with there being no programme of active SARS surveillance in Toronto, there was no basis for saying that the outbreak was over. It was, in fact, an exercise in wishful thinking.

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[453] 118 is the estimated number of cases associated with the second phase of SARS. Source: Presentation of Dr. Colin D'Cunha, SARS Commission, Public Hearings, September 29, 2003.

> But even more so, the suggestion that it was ridiculous to consider that there might be cases, pointing ridicule at the suggestion that there might be cases, was sending out entirely the wrong message.[454]

The city was squirming under the weight of the SARS outbreak. Mel Lastman, the mayor at the time, focused on the economic impact of SARS at a special meeting of City Council. He said:

> … It's not the disease that's doing the damage – it's public perception about SARS that's hurting Toronto's tourism industry – and it's getting worse.
>
> There's a third level to this crisis that we cannot ignore – and that is the impact this is having on our residents and our businesses.
>
> People's lives are being adversely affected by both the disease and the public's perception of this disease …Toronto can expect both provincial and federal funds for an advertising campaign once we have put SARS behind us . . .
>
> Tourism Toronto is days away from tabling a marketing initiative designed to sell Toronto locally, nationally and internationally.

Provincial officials heard the message, but they waded into lifting the emergency with butterflies in their stomachs.

Premier Ernie Eves told the Commission:

> I remember the day that . . . our emergency order was lifted because when [an aide] phoned me and sent this little piece of paper over to my residence, I believe in the morning, I did not sign it. I asked him I think half a dozen times, "Are you absolutely positive that this is the right thing to do, that we are getting the right information?" . . . I'm sure that he went back to the Ministry of Health a gazillion times, saying, he [the Premier] does not want to sign this thing.

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[454] SARS Commission public hearings, September 30, 2003.

> [We kept asking] "Are you sure this is all right?" and we kept getting the answer I was told that oh yeah, we are 110 per cent sure . . . yeah well, you can never be 110 per cent sure in any of these things . . . It is funny how my gut just told me that I should be asking these questions. But you have to take the best medical . . . and scientific advice that you can get. You have to have confidence in those people, you have to go with it . . . I think that from what they knew at the time, they felt that it was the right thing to do. I have tremendous amount of respect for the abilities of both Dr. [Colin] D'Cunha and Dr. [Jim] Young. I can't perceive either one of them ever doing something that was expeditious as opposed to appropriate or correct and I think that they acted in their best judgment.
>
> The situation in North York was as I recall a fairly unique and unanticipated thing and . . . it certainly was very unfortunate. Believe me, nobody was more concerned than I when we found out that there was a second event, that's not exactly the thing you wanted to hear . . . I think that there was a perception on behalf of the nurses and a particular nurses' association that perhaps there was some plot at least if you read that media, that's what you would understand. I can assure you that nothing was further from the truth. In reality, we were trying to be as open and transparent as possible . . . I do not think that anybody can doubt the sincerity of all people involved.

Tony Clement, the Minister of Health, also had misgivings about declaring an end to the SARS outbreak. He told the Commission that while there was no pressure from inside the government to declare an end, he did feel pressure from the media:

> There certainly was pressure from the media and I thought to myself as the cases decline . . . they are going to start to ask me whether this crisis was over, and I'd be the craziest health minister alive to declare this over . . . I was asked probably a dozen times on television, "Is this over?" and my response was exactly the same. In early May, which is after the travel advisory [was lifted], I said, no, this is not over. We have to continue to be vigilant. There could be a recurrence and so our job is to continue to ensure that we have the right procedures in place in case there's another outbreak of this or any other communicable disease. I said that ad nauseam because I knew that if I ever declared it over and it wasn't over, I would be strung up from the nearest lamp post. I knew that as a politician, as well as a human being. So, I never declared it over. I never, ever, ever, in my discussions with stakeholders, with the media, with the POC

> [Provincial Operations Centre], with the Premier, I always said we have to be continually vigilant because this may not be over.

Mr. Clement said that while he did feel pressure from the media and from some institutions, none came from the senior people managing the crisis. But people generally wanted it to end:

> This is human nature . . . I think it's a normal human reaction to think that this is over, now we could get back to normal. My point to them always was: "We will never get back to normal." That's why I am the one who coined the phrase "the new normal". At a Science Committee, I said that we had to get a new normal because we were never going back to normal. We were in the midst of creating the new normal when the second outbreak obviously occurred. But I got a sense after . . . the second outbreak that human nature did its thing again, and there were some people who may have potentially let their guard down because they thought that it was over. But they never got that signal from me and never got that feeling from anyone in the senior management group.

The cautious message was not heard by the general public and by some health workers. Under a headline, "Clean bill of health revives hospitals," the *Toronto Star* proclaimed:

> **Greater Toronto comes back to life**
>
> On its first day as a city officially free of SARS, Toronto rolled out the welcome mat as hospitals slowly moved toward a new kind of "normal."
>
> Ontario's chief medical officer of health, Dr. Colin D'Cunha, called a halt to daily screenings at hospitals and clinics throughout the province, citing the clean bill of health given Wednesday by the World Health Organization.
>
> However, hospitals warn that it will be some time before they're fully up and running again.
>
> "We're going to have to, in the near future, learn how to live with SARS, learn how to protect ourselves while functioning efficiently in the emergency department," said Dr. Tim Rutledge, chief of emergency medicine at North York General Hospital.

> "Not all of us, in the long-term future, will be wearing masks and gloves and gowns all the time. But certainly there will still have to be procedures in place at the triage desk for the triage nurses to be protected at all times until we decide whether the patient needs to be in an isolation room," he said.
>
> "We will adjust to this new reality until this disease is eradicated."[455]

Ironically, it was at the North York General Hospital that the new outbreak was about to emerge and start the second phase of the spread that became known as SARS II.

While the WHO travel advisory was not reinstated, it took the WHO until July 2, 2003, to remove Toronto from its list of SARS-affected cities.[456]

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[455] "Clean bill of health revives hospitals," *Toronto Star*, May 16, 2003.

[456] "Chronology," CBC In Depth, www.cbc.ca

CHAPTER FOUR: The Second SARS Disaster

May 23 Bombshell

Rough Day at North York General Hospital

On May 23, the news emerged at a disastrous press conference that the victory declared over SARS was false. SARS was back with a vengeance.

With the ministry announcement on May 22 of the St. John's Reabilitation Hospital closing came a notice to the media of a "technical briefing for SARS update" to be held on Friday, May 23, at 7:00 p.m. in the Macdonald Block at Queen's Park. It was at this press conference that the news emerged, but only under media probing, that SARS was back. Toronto was in the grips of a major second outbreak of SARS.

What the May 23 press conference showed was complete official disarray. It was clear that no one was in charge of the flow of information to the public. The worst aspect was that the devastating news of the second outbreak was not volunteered by those supposedly in charge. The news had to be pried out by reporters. As Helen Branswell of the Canadian Press noted the next day:

> Inexplicably, neither Health Minister Tony Clement nor Ontario's chief medical officer Dr. Colin D'Cunha nor Dr. Barbara Yaffe from Toronto Public Health volunteered the information about the new cluster during formal presentations at the beginning of the scheduled news conference.
>
> It was only when the floor was opened to questions that the bombshell was dropped.[457]

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[457] Helen Branswell, Canadian Press, May 24, 2003.

No one had told the Minister of Health or the Chief Medical Officer of Health about the second outbreak.

Towards the beginning of the press conference on the evening of May 23 the Chief Medical Officer of Health, Dr. D'Cunha, warned those who had recently visited North York General or St. John's Rehab to monitor themselves for symptoms of SARS[458] and announced a telephone hotline.

D'Cunha's message was upbeat, that steps were being taken towards:

> … having that 150 percent certainty that we've wrestled this new episode, if it turns out to be that, completely to the ground.

His reassuring message, which turned out to be terribly wrong, was that the system was working:

> I want to stress that our system of early detection and quick containment is working …
>
> Despite these apparent new cases, if I may call them that, I believe that we continue to make our progress well known, and better, against this disease. I know that we have some unanswered questions about these cases, we're not even 100 per cent certain at this time that we can call them SARS in terms of meeting the definition. That having been said, we continue to determine whether there is an epidemiological link, we're making use of all available public health tests, medical tests to help us nail this one down. We will continue to advise the media and the public when we have more information.

The trouble with this assurance is that it was wrong. The system of detection and containment had failed completely. Officials had more information, shocking information, than that announced by Dr. D'Cunha. This became apparent after a question from a journalist:

> Are any people under investigation?

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[458] He said: "These symptoms include the rapid onset of fever greater than 38 degrees, that is accompanied by respiratory problems such as a dry cough, shortness of breath, and difficulty breathing".

Dr. D'Cunha replied dismissively[459] that there were a couple of people under investigation:

> There are a couple of persons who are under investigation. I'm going to request my colleague Dr. Low to get into some detail. Don?

The media spotlight then turned to Dr. Low. In contrast to the upbeat demeanour of Dr. D'Cunha, Dr. Low appeared sombre and halting, shaken by the news he was about to deliver.

> Yes, it's been a rough day at North York. I don't have all the answers for you tonight but what we've essentially identified is a cluster of cases that occurred on one ward at North York General … That there has been a likely transmission to health care workers. That there has been transmission to family members. And that there's probably been transmission to other patients.

The unanswered question was how many people were under investigation. A journalist asked immediately for an "estimate of how many people are in this cluster." Only then, and only after this further probing by Helen Branswell of the Canadian Press, came the big surprise. Dr. Low said:

> We're talking probably in the twenties.

The cat was now out of the bag. It was immediately apparent that Dr. D'Cunha's earlier statement, that there were only a couple of people under investigation, was inaccurate.[460] This was not lost on the media. A journalist said:

> In the twenties. Okay. Why did you just go through this whole presentation for 20 minutes and we had to get it in a question? Why didn't you tell us that at the start?

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[459] There is no suggestion that Dr. D'Cunha knew he was misleading the public. The problem was not deliberate deception but the broken system. The system was so broken that the man in charge of public health did not know what was going on.

[460] As noted below, there is no suggestion that D'Cunha was deliberately misleading. It became apparent that he had not made it his business, before speaking to the public, to find out what in fact was going on at North York General.

Although Dr. D'Cunha did his best with the incomplete information he had,[461] the journalists kept coming back to the key fact, which was originally withheld from the public:

> So we're looking at a minimum of 25 cases of SARS now?

And Dr. Low acknowledged that a number of possible SARS cases were still under investigation.[462]

Officials said that 34 paramedics were in quarantine, as were several hundred people named by St. John's, that that total in quarantine at that time amounted to just over 1,000 people, depending on how the list was defined, and that the number was growing.[463]

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[461] Dr. D'Cunha: Well, keep it in mind that right through the period middle of March, every person who presented with any one of the signs and symptoms consistent with SARS made it to that list. What was looked at as a person of interest or a person of investigation different jurisdictions use different terms. My understanding, from what I know in the clinical case conferences that I participated in, the five persons that we spoke to are more likely towards being SARS, these other 20 are at the lower end of the spectrum, and they may well drop off the list, and I think Dr. Low has made it very clear, in the case of the one death that he's looked at the chart, this person didn't even ... he feels very confident it was not. There are others if they progress, because some of them are some of the staff as best as I understand it, they may come closer to these five. I think what you are trying to get us to do is to start to draw cuts in this category of persons of interest or persons under investigation. The key message here, Helen, is anyone who presents with respiratory symptoms, particularly in the last 10 days, automatically are going to be people of interest or persons under investigation for us. And that's exactly why yesterday we asked people to come out and identify. We put staff in isolation, to name just a few, and, Don, I don't know if you want to elaborate a little more.

Dr. Low: No. I mean, it's just what I said.

[462] By May 24 the number under investigation was 33; two had died, 25 were in hospital, and six were recuperating at home. Seven of the 33 were health workers. It was thought that the St. John's cluster was sparked when a woman in North York General Hospital on the same ward as the 96-year-old man was transferred to St. John's on April 28. (Helen Branswell, Canadian Press, May 24, 2003.)

[463] By the next day, Saturday, May 24, the numbers were clearer:

> About 500 people in Toronto have gone into quarantine, said Dr. Barbara Yaffe of Toronto Public Health. Another 2,000 who were in the affected hospitals during key transmission dates have reported to public health but, because they have gone through the disease's incubation period without symptoms, have been given the all-clear.

Helen Branswell, Canadian Press, May 24, 2003.

The disastrous communication of the May 23 press conference was reviewed in the Commission's first interim report. As the Commission found:

> The confusion that marked the May 23 press conference exemplified the lack of any coherent communications strategy and the lack of any clear lines of accountability for the communication to the public of vital news about the status of the outbreak …[464]
>
> … The problems of public communication during SARS are addressed thoughtfully in the Naylor Report and the Walker Interim Report. The Commission endorses their findings and their recommendations for the development of coherent public communication strategies for public health emergencies.
>
> There is no easy answer to the public health communications problems that arose during SARS. On the one hand, if there are too many uncoordinated official spokespeople the public ends up with a series of confusing mixed messages. On the other hand, as Mr. Clement points out above, any attempt to manage the news by stifling important sources of information will not only fail but will also lead to a loss of public confidence and a feeling among the public that they are not getting the straight goods or the whole story. What is needed is a pre-planned public health communications strategy that avoids either of these two extremes.[465]

Adding to the communication disaster was that this new SARS outbreak was reported during this press conference before North York General Hospital had told its own staff any details of the investigation or conveyed to them that there were a large number of cases of SARS under investigation at the hospital, many of them ill staff.[466] More will be said later about communication with staff.

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[464] SARS Commission, first interim report, p. 63.

[465] SARS Commission, first interim report, p. 64.

[466] In an update to staff at 5:10 p.m. on May 23, 2003, the hospital reported, "We have patients with undiagnosed respiratory symptoms including some health care workers. They are being assessed as 'persons under investigation' until a more definite diagnosis is determined." The hospital announced the implementation of full barrier precautions at the Leslie site, effective immediately. SARS Update #43, May 23, 5:10 p.m.

SARS II sickened 118 people, almost a third of the total for both outbreaks. By the time SARS II was over, 17 more were dead, including Nelia Laroza,[467] a North York General Hospital nurse. The emergence of SARS II at North York General, coming after official assurances that the outbreak was over, shook the confidence of the public and the media in the accuracy of what they had been told by the authorities.

The public announcements of victory over SARS in mid-May were followed quickly by a press conference on May 23, 2003, which revealed the re-emergence of SARS at North York General Hospital. The news came as a bombshell because officials had assured the public that SARS was under control and that the outbreak was over. A shocked public found it hard to understand why they had been told that SARS was under control only to learn that it was back with a vengeance.

Three weeks and two days earlier, on April 30, the World Health Organization, after protests from Ontario, had removed its travel advisory against Toronto. Ten days earlier, on May 13, the province had declared the "new normal," which established the precautions to be taken as the outbreak ended. Nine days earlier, on May 14, the World Health Organization had removed Toronto from the list of areas with recent local transmission of SARS. Six days earlier, on May 17, Premier Eves had lifted the provincial emergency.

We now know that while precautions were being relaxed in a mood of relief, SARS was in the orthopedic ward at North York General Hospital and in family clusters and in health workers associated with that ward. We also know that an earlier cluster of patients identified in the psychiatric ward at North York General Hospital and reported to staff as "not SARS" were in fact SARS cases. As April and May unfolded and Toronto tried to return to normal, there were unidentified SARS cases in North York General Hospital. As precautions were relaxed in early May, those cases spread, infecting other patients, visitors and health workers.

How could the public be assured that SARS was under control, only to learn almost by accident through a blurted comment in a press conference that it was back?

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[467] Because Ms. Laroza's name is in the public domain as a result of intensive media coverage, her name is used here as an exception to the general rule that individual SARS patients are not identified personally in this report.

The sense of public surprise was summed up in Michael Enright's introduction to a series of CBC interviews in June 2003:[468]

> For a time we thought we had it licked. The battle with severe acute respiratory syndrome was over. Toronto health officials shut down their containment teams. Nurses and doctors took off their protective masks and gloves. Hospitals went off high alert, politicians declared Toronto to be clean and exhausted health care workers booked some much-needed time off. But it wasn't over. SARS wasn't beaten. Suddenly with a new cluster of cases SARS was back … The return of SARS indicates that somewhere in the system of public health protection there was a breakdown. The system somehow failed. Medical professionals who have been tracking the outbreak since March 1st let down their guard. This morning an examination of what went wrong and why with some of the key players.
>
> I want you to help me a bit with chronology here. As I understand around the middle of April, around the 25th, public health officials said that the outbreak was pretty much under control 20 days after that there had been no new cases and then by May 16th or so everybody thought that it was over. Some of the contamination teams were disbanded, some of the workers were told that they don't have to wear protection and so on, and then on the 22nd of May a new cluster is found.
>
> What happened? How did we feel that it was over and then it was not over?

This sense of a breakdown in our system of public health protection, that the system somehow failed and medical professionals had let down their guard, was aggravated by the way the bad news emerged. The sense of public shock was fuelled not only by the unexpected nature of the announcement but also by the curious way that it slipped out towards the end of the May 23 press conference.

Despite warnings from nurses and doctors at North York General, hospital officials had dismissed evidence that SARS was back.[469] But an independent review of hospital records by Toronto Public Health during the day on Friday, May 23, made it impossible to deny any longer that SARS had been spreading in the hospital for weeks.

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[468] CBC interview June 2003: Michael Enright, Dr. Sheela Basrur, Dr. Richard Schabas, Barb Wahl.

[469] The complex reasons for this good faith mistake are recounted in detail below.

The news was devastating to all those who had fought SARS, especially to the nurses and patients and all those at North York General who had thought they were safe only to find that they were seriously at risk. And those who raised the alarm that SARS was still around, that it had not left, felt ignored and then angry, as they later learned that they were right. As one North York General physician said:

> But I'll tell you, SARS II never existed, SARS I just kept going. And when you see this happening and you turn a blind eye to this, either because you have other motives, you want make the hospital look like it's recovering and let's get back to business and so on, or because your level of suspicion, or what we call your index of suspicion in medicine, is not high enough, then it's very disturbing. It's very disturbing that this kind of thing can happen with so many people around seeing it, people discussing it, raising concerns, and yet the power being given to that one person who can make these decisions.

As noted in the quotation above, although everyone speaks of the first outbreak (SARS I) from April 7 to mid-May 2003 and the second outbreak (SARS II) from May 23 to July 2003, there was in a technical sense only one outbreak, because even after victory was declared in May, SARS continued to incubate and spread at North York General.[470] Because the two phases of the fight against SARS were clearly separated in time it is logical to follow the common understanding and to refer in this report to SARS I and SARS II, and these terms have been used throughout the report.

Although there were in hindsight clear signs that SARS was spreading in the hospital, it was not detected because there was no system to put together all the evidence that now points so clearly to the re-emergence of SARS at North York General during April and May. Before May 23, there was no epidemiological investigation at North York General Hospital to bring together for the hospital management and the outside experts the scattered pieces of information that show so clearly in hindsight that SARS never went away at North York General and that it simmered undetected for weeks until its existence could no longer be denied.

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[470] North York General now recognizes this:

> North York General Hospital has been described as the epicentre of SARS II. In truth, for North York General Hospital there was no SARS I or SARS II. We never really got out of SARS I, so, there was no break. For us, SARS lasted almost five (5) months. (Bonnie Adamson, CEO, North York General Hospital, SARS Commission Public Hearings, September 30, 2003)

North York General Hospital

Introduction

The shock of the disastrous May 23 press conference was followed by questions. How could SARS be back, just after the government said it had gone and declared victory? How long had SARS simmered at North York General? Why did the hospital and the authorities not realize what was going on?

As more facts emerged, the questions became pointed. It soon became known that nurses at North York General had warned the hospital that SARS had returned and that their concerns culminated in a meeting with hospital officials on May 20, when the nurses were told incorrectly that they were wrong and that SARS had not returned at North York General. In fact it turned out that the nurses were exactly right and the hospital's assurances were exactly wrong.

Did North York General listen to the nurses who said SARS was back? Why did the hospital dismiss as wrong the warnings, which proved to be so tragically correct? Were there other warnings? The questions were mixed with rumours. Was there a cover-up? Did the hospital and the government hide SARS in order to lift the economically devastating World Health Organization travel advisory? Who knew what, and when did they know it? As it became more clear that SARS had simmered undetected at North York General since April, these questions and rumours became even more pointed.

Because of these questions and these rumours, because North York General was the epicenter of the second wave of SARS which sickened 118[471] and killed 17 in addition to the casualties from the first wave, and because the failure to detect SARS at North York General shook public confidence in official assurances, there was much to investigate and there is much to tell the public in this report.

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[471] 118 is the estimated number of cases associated with the second phase of SARS. Source: Dr. Colin D'Cunha, SARS Commission Public Hearings, September 29, 2003.

As Dean Naylor pointed out, the impetus for this Commission came largely from issues arising out of the second outbreak at North York General:

> Mr. Justice Campbell's mandate arose in meaningful measure from events around the second wave or "SARS II" …
>
> … On June 10, largely because of the tangled chain of events at North York General Hospital, but also because of mounting pressure from nursing associations and unions, opposition politicians, and the media, the Province of Ontario announced a formal arm's-length investigation into the SARS crisis, headed by Ontario Superior Court Justice Archie Campbell.[472]

The North York General study is the longest section in the Commission's story of SARS because this second outbreak raised the most troublesome questions: how and why SARS was undetected and misdiagnosed with such tragic results after the province had declared that SARS was gone.

Based on confidential interviews with over 150 individuals associated with North York General,[473] and on hundreds of documents, this chapter will trace the story of the second outbreak at North York General. This is not the story of SARS at North York General, merely the account of how the second outbreak came to pass, so far as it will ever be known.

This chapter seeks to answer a single question: how did North York General become the epicentre of SARS II? This single-minded focus limits, of necessity, the scope of the story told here.

The story includes the hospital as SARS initially found it in March of 2003, the first three nurses who came down with SARS in April, two other nurses who fell ill, the mysterious illness of three psychiatric patients in April and May, the consultations with Toronto Public Health and outside experts, the presentation of a cluster of five family members who turned out to have SARS, the belated discovery on May 23 that SARS was back at North York General, and the immediate steps taken to deal with the disaster.

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[472] Naylor Report, p. 23.

[473] In most cases witnesses are quoted without personal attribution. In some cases witnesses agreed to be quoted by name.

Outside the scope of this chapter is the story of how North York General coped with the return of SARS with such excellence as one of the four "alliance" hospitals that took the second outbreak cases. Outside the scope of this focus are the many improvements since SARS in infection control and prevention and disease surveillance. Reference will be made later to the state-of-the-art infection control and surveillance system now in place at North York General, a system referred to by some as the gold standard.

Outside the scope of this chapter is a scientific question that will probably never be answered: the question of the exact pathway through which SARS entered and initially spread at North York General. Various theories, not all of them consistent, have been advanced by various authorities from time to time. Dean Naylor said it is doubtful that we will ever know for sure exactly the precise transmissions of infection through which SARS spread undetected at North York General. As Dean Naylor said:

> Despite extensive investigations by Toronto Public Health, Health Canada and the CDC [Centers for Disease Control], the exact chain of events leading to the second wave of the SARS outbreak remains a mystery. In fact, a definitive link between the first outbreak and the cases on the orthopedic unit (4 West) has yet to be established, although officials have suggested different possibilities. How the psychiatric patients fit into the overall picture is also unknown, and may never be definitively solved.[474]

Although further scientific investigation after Dean Naylor's report has produced a plausible working theory that makes sense to those who have studied the problem, an element of the unknown will probably always remain. This theory is discusses later in the report.

Outside the scope of this chapter is much of the work of the administrators and physicians and nurses and health workers who displayed such skill and dedication and courage at North York General during SARS. The hospital told its own story of SARS during the Commission's public hearings, and that presentation is set out in the public hearing material on the Commission's website.[475]

North York General is home to some of the finest and most dedicated physicians, administrators and health workers in Canada. Many of those doctors and nurses worked tirelessly on the front lines during SARS, putting their lives at risk to help others. Nothing in this chapter detracts from its present distinction as a fine hospital. To tell the story of how North York General tragically missed the return of SARS is not to point fingers or assign blame: it is simply to tell what happened without any findings of civil or criminal liability and without any adverse finding against the hospital or anyone associated with it.

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[474] Naylor Report, p. 40.

[475] www.sarscommission.ca

Although the second outbreak happened to occur at North York General, it is possible that given the deep systemic province-wide inadequacy of preparedness, infection control and worker safety systems, it could have struck any other hospital. Those who wish to prevent similar disasters in the future, instead of pointing the finger at North York General, should focus on system-wide weaknesses illustrated by the insidious spread of SARS that happened to occur at that particular hospital. The lesson from North York General is not that the hospital deserves blame. The lesson from North York General is that because of systemic weaknesses, what happened there could, but for good fortune, have happened at almost any other hospital in the province.

All that being said, the failure to detect the return of SARS at North York General was a tragedy of enormous dimensions. It sickened 118, killed 17,[476] caused unspeakable loss and suffering, shook public confidence in the ability of authorities to inform and protect the community, and shook the faith of health workers in the ability of their employers to keep them safe from harm.

We owe it to those who died and those who suffered to learn how this happened, to correct the mistakes that led to the tragedy and to build systems to make sure it does not happen again. That is why the North York General story is so important to us all.

The outbreak at and from North York General became known as "SARS II." For many this was a misnomer, as it suggested two separate outbreaks, each with a distinct beginning and end. In reality there is no clear dividing line to demarcate two separate outbreaks. SARS never left.

SARS simmered throughout North York General Hospital during April and May until, cautiously and according to provincial directives, the hospital relaxed precautions in May. As soon as precautions were relaxed, SARS sprung up quickly at North York General. Simmering since April, it spread remorselessly with ever increasing speed leading to widespread infection in the hospital and to its sudden closure on

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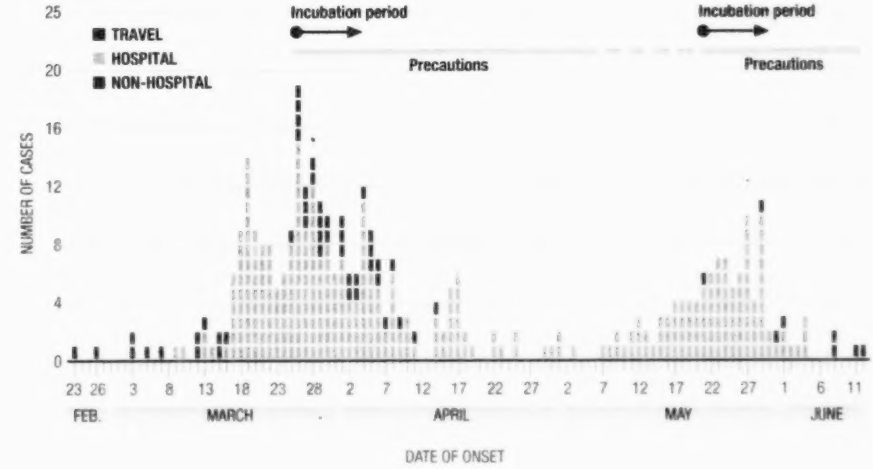
[476] Presentation of Dr. Colin D'Cunha, SARS Commission Public Hearings, September 29, 2003.

May 23, 2003. The SARS cases that simmered undetected and misdiagnosed in North York General since April remained stable in number until North York General complied with provincial directives and relaxed precautions in early May. The chart shows what happened next. As soon as precautions were relaxed, SARS started to spread rapidly within one incubation period. Then as soon as precautions were reintroduced on May 23, SARS declined just as rapidly within one more incubation period.

Nothing is clearer than this relentless relationship between SARS and precautions. As the chart[477] below shows, precautions down, SARS up. Precautions up, SARS down.

The Distribution of Cases in the Severe Acute Respiratory Syndrome (SARS) Outbreak in Ontario, Canada, from February 23 to June 12, 2003.



The second outbreak was devastating. In the end 118[478] people contracted SARS. Seventeen of them died, including Nelia Laroza, a highly respected and much-loved nurse who worked on 4 West, the orthopedic unit where SARS simmered undetected and undiagnosed. For those who fell ill and for those who lost loved ones, the cost of SARS II is immeasurable.

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[477] Dr. Donald Low and Dr. Allison McGeer, "SARS – One Year Later", NEJM, 349:25, December, 2003.

[478] 118 is the estimated number of cases associated with the second phase of SARS. Source: Dr. Colin D'Cunha, SARS Commission Public Hearing, September 29, 2003.

Whenever one speaks of cost – the cost to the government to protect us better, the cost to hospitals of better infection control, surveillance and worker safety – we should never forget the cost of SARS in sickness, pain, suffering and unspeakable loss.

The second outbreak also had a terrible impact on the morale of health workers. Many lost faith in the system and the ability of their employers to protect them. It was not only the public who had been led to believe that SARS was gone. Nurses and health workers were told that SARS was contained and that there were no new cases of SARS. SARS was over. Nurses at North York General, concerned about outbreaks of staff illness and clusters of SARS-like illness, were told again and again by the hospital "Not SARS" when it turned out that these cases were in fact SARS.

On May 23, 2003, nurses and others at North York General learned, along with the rest of the world, that SARS was not in fact over. It was not contained. There were new cases of SARS right in their midst. Many of their colleagues were ill with SARS, and in the coming days more would become ill and be admitted to hospital.

But once again these nurses and doctors and clerks and technicians were asked to step into danger. And once again they did. Once again they risked their lives and health for the sake of others. What is it in their character and their professional culture that produced this courage? Will they heed that call the next time if they lack confidence that governments and hospitals will do better next time to protect them? More will be said later about the need to restore the faith and to build trust with those health workers who no longer trust the system.

The challenges we faced during SARS were overcome only through the hard work, dedication and sacrifice of people too many to identify in person. Everyone did their best, from the front-line staff, to hospital managers and administrators, to the experts who volunteered their time, to public health, to those within the government. They all worked hard, always with the best intentions. But they could not repair in a day or a week or a month the gaps and cracks in the system, the lack of preparedness, the lack of infrastructure, the lack of basic resources. You cannot change tires on a car travelling at 80 miles an hour.

As a North York General nurse said so eloquently:

> Valiant efforts were made, I think we have to acknowledge that, but effective efforts were not made. They weren't organized, they weren't fast enough, they weren't cohesive.

SARS was unforgiving. It did not pause to wait until the system got its act together. SARS was a wake-up call – a chance to see where things went wrong, what needs to be fixed, and what cannot happen again. The problems that arose during SARS must be fixed. If we do not fix them, we risk that those who worked so valiantly to save us from SARS the last time will not be willing to step once more into danger. Why would anyone step into danger again without confidence that everything reasonable has been done to protect them? Without the willing support of the health workers in the face of a system that let them down so badly during SARS, we will have no one to save us next time around. It behooves us to do everything reasonable to secure their confidence that we will protect them better next time. If we do not fix the systems that let them sicken and die, we cannot reasonably ask them to step forward into danger when the next outbreak strikes.

This is why the lessons from SARS, in particular from the second outbreak, are so important to our health system and to the Province of Ontario as a whole. It would be a grave error for any hospital to view the story of North York General as something that happened to someone else. It would be unfair to scapegoat North York General for the general systemic failures that came home to roost in that particular hospital. North York General cannot be blamed for the fact that Ontario, like some other jurisdictions, had too low a standard of surveillance and systemic protection against the spread of infectious disease. The take-home message from North York General is that every hospital must prepare better and must develop systems to ensure effective surveillance of hospital-spread diseases.

The problems that arose at North York General were not unique to that hospital. They reflect seven systemic problems that run like steel threads through all of SARS, through every hospital and every government agency:

- Communication
- Preparation planning
- Accountability: who's in charge, who does what?
- Worker safety
- Systems: infection control, surveillance, independent safety inspections
- Resources: people, systems, money, laboratories, infrastructure

- Precautionary principle: action to reduce risk should not await scientific certainty

As the narrative unfolds during April and May, right up to the belated discovery of the outbreak on May 23, 2003, these seven themes underpin the story of how the re-emergence of SARS at North York General Hospital was missed by the hospital and by all the outside experts upon whom it relied.

Every other hospital was similarly vulnerable to the spread of SARS. The story of North York General has lessons for everyone. We must all learn from the story of North York General, so that whatever infectious disease follows SARS, we are all better prepared.

"Infections, pandemics, epidemics, they're not going to happen"

North York General Hospital is a multi-site hospital. The main site is located at 4001 Leslie Street, at the corner of Leslie Street and Sheppard Avenue, in North York (now part of Toronto), Ontario.[479] It is a busy community teaching hospital with approximately 420 beds. In 2001-2002 it had approximately 65,000 emergency visits and 175,000 outpatient visits.[480]

Like most other hospitals in Ontario, infection control at North York General was not given a high priority before SARS. Unlike programs with higher profiles and more obvious results, the benefits of a robust infection control program were not readily apparent. Its lack of resources and priority become apparent only in the face of an outbreak or crisis, as it did during SARS.

North York General was no exception to this. When SARS hit, North York General Hospital, like most other hospitals in Ontario, did not have enough infection control resources to deal with a major infectious outbreak. The hospital had

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479. It also has a site at 555 Finch Avenue West, known as the Branson Division, as well as Senior's Health Centre, located at 2 Buchan Court (Leslie and Sheppard). The Senior's Health Centre is a 192-bed long-term care home.

480. SARS Field Investigation, p. 8.

one full-time infection control practitioner at the General site as well as one at the Branson site. One hospital official described the makeup of the infection control program pre-SARS:

> Pre-SARS, we had an infection control program. We had a leader designated and she had one full-time person working with her and another person who was training to be an infection control practitioner. We did not have a designated medical leader for infection control. The role was assumed by Dr. Barb Mederski, who on an informal basis was an advisor to the infection control program. Her primary responsibility was as an infectious disease specialist. That was about 50-60 per cent of her activity, although she did do some work as an internal medicine specialist. That is her background. She provided advice and counsel when we got into outbreaks. She provided advice around standard infection prevention and control issues within the hospital. We had one other infectious disease specialist ... There was not a formal sign-out system between the two of them, but they looked after the majority of patients in the hospital who required an infectious disease specialist.

There was a third member of staff with a specialty and certification in both infectious diseases and medical microbiology, but he worked in the emergency department during SARS and was not utilized in an infection control capacity. As noted above, although there were two physicians with infectious disease specialties. Dr. Mederski assumed primary responsibility during SARS. There was no formal division of responsibilities between Dr. Mederski and the other infectious disease specialist. As the other infectious disease specialist explained to the Commission:

> Before SARS there was no formal infectious diseases call schedule, and so there would be people who called me to see the patient in consultation for infectious diseases, but there were people who would call Dr. Mederski. There was nothing formal, whoever decided to call me or call Dr. Mederski, so there was never really on-call or not-on-call.

More will be said later about the role of Dr. Mederski and the responsibilities she held during SARS. Regardless of the division of responsibilities, the inadequate resources became apparent when SARS hit. As one physician described the problem:

> Infection control personnel were totally overworked. It was just one of those things that has never received a lot of priority, I guess, and we've taken it for granted up until now. Not just we, meaning North York, but I mean everybody.

Another senior physician at North York General, described how infection control had simply ceased to be a priority not only for health care institutions but also for those working inside them:

> We believed, in all institutions, that infections had gone away ... [Pre-SARS] I would say NYG was no different than any of the other hospitals in which I had privileges, and it was cursory, we really weren't very concerned about major problems ... Infections, pandemics, epidemics, they're not going to happen. So you would get your training in medical school and do your residency about hand washing and changing your clothes, but it had become lax.

Not only were infection control resources not in place, but structurally North York General was not equipped to deal with an influx of infectious patients. This problem was in no way unique to North York General Hospital. Prior to SARS, few hospitals imagined that they would need large numbers of negative pressure rooms or isolation facilities. When SARS hit at North York General, it, like most other hospitals, had to scramble to increase its capacity to isolate and care for infectious cases. It was not enough simply to designate a room as an isolation room; it had to be properly ventilated, and negative pressure rooms had to be created. When SARS hit North York General, there were only two proper negative pressure rooms in the entire hospital, both located in the emergency department. One ICU physician described the challenge:

> Pre-SARS you could essentially make any room an isolation room just by closing the door and putting a sign out and using appropriate barrier precautions ... We didn't have a proper negative pressure room in the ICU, the old ICU. And I don't think there were any floor rooms that were actually negative pressure. We had very few negative pressure rooms pre-SARS. The ones that we needed during SARS we generated for the most part until our new ICU opened.

Prior to SARS, most health workers had never heard of, much less used, protective equipment such as the N95 respirator or a Stryker suit. All of a sudden, proper use of this unfamiliar equipment, including very precise care in its application and removal, could mean the difference between becoming ill with SARS and remaining safe. Overnight, health workers were expected to apply and maintain precautions of a type and level that they had never used before. This too was not unique to North York General Hospital, as other hospitals in the Greater Toronto Area were in a similar situation of having never used this level of precautions before.

When SARS hit North York General, much of the senior administration was relatively new. Although senior management stepped up to the task and devoted countless hours to managing the SARS outbreak, there was no long-standing relationship between front-line staff and those in charge. There was not the same established foundation of trust as existed in other institutions.[481] As one physician said:

> Senior management is so new, there's not yet any buildup of trust. I don't think that's their fault, except for timing, they should've chosen a better time for SARS, after they'd been there for five years, right. So I find them workable and approachable, but the president and the vice-presidents, most of them had been there less than a year when this hit, and it takes much longer than that to build trust.

The trust of staff at North York General became a key issue during the outbreak and remains the source of anger for many of the staff even years after SARS. More will be said later in the report about communication with staff, listening to staff, and the feeling of some that their trust was misplaced.

Despite the systemic problems identified throughout this report, North York General Hospital remains home to many fine nurses, physicians and other health workers. They worked tirelessly during SARS, often in the face of frightening unknowns. Those who worked at North York General during SARS, and particularly those who cared for SARS patients, exemplify the ultimate of selfless sacrifice and public service. They went to work every day knowing that they might become ill. Ever present was the fear that they might infect their families with a deadly illness. As one nurse said:

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[481] For example, at Scarborough Grace Hospital, the Vice-President during SARS was Ms. Glenna Raymond, a former nurse who had worked her way up through management. She was well known to staff, and many of those interviewed, including many nurses, expressed a deep trust and confidence in her leadership abilities.

> There's one thing with becoming ill yourself at work, and then there's another thing coping when you could potentially bring that home to your family. It really had a huge impact on me in that way. I would get up in the middle of the night checking the doors and the windows making sure everything was locked. Check on my children all the time. If my husband was out with the kids and I had expected them home at a certain time and didn't hear from them, I would be in a panic thinking that something awful had happened. It really shook my foundation of safety that I had, and that I thought that my family had.

Another nurse who worked on the SARS unit described how suddenly her job became a potential source of danger to her family:

> I never thought in my whole world of nursing that I would ever potentially bring something home to my family. When my son went into quarantine and it impacted my family like that, I genuinely questioned whether or not I should go get a job at A&P, and it came that close, very close, very, very close.

Nothing in this report should be taken as any criticism of those at North York General who worked so hard and so selflessly on the front lines of the war against the deadly disease that was SARS. They fought bravely in the face of a new and unknown disease, never knowing what the next day might bring, always wondering if they and their families were safe. As will be seen in the story of North York General, even when the second outbreak became evident, in the face of anger, fear, despair and overwhelming disappointment, they continued to work and provide care for those infected with SARS. Everyone in Ontario owes a debt of gratitude to these front-line heroes. Whatever mistakes were made and whatever lessons are identified from SARS have been learned through their efforts and tragically, in some instances, at their expense.

"Like Drinking Water from a Firehose"

North York General became involved in the SARS outbreak towards the end of March when it began receiving patients who had contracted SARS from the outbreak at Scarborough Grace Hospital.

Dr. Tim Rutledge, the Chief of Emergency Medicine at North York General, recalled that quite early it became apparent that this was a serious illness requiring a serious response:

> I can tell you first step we took. We started, I think because of our proximity to Scarborough Grace, we were seeing quite a number of cases. We were quite impressed that it was a very aggressive disease. I remember seeing one case myself where in the middle of night a patient had a very minor pneumonia, the next morning her lungs were whited out, she was an elderly lady and she was getting very ill. We knew she needed to go to the ICU. She was in one of our rooms that was an isolation room. We didn't have any room in our ICU. Somebody had to transfer her down to 3A … We were able to get a bed for her at St. Mike's [Hospital]. Somebody had to transfer her down to the ICU. I did it. I put on a mask, hat, gown and gloves and bagged her all the way down in the back of the ambulance. It was pretty impressive to all of us as to how sick she got, so fast. By March 25th we had seen enough, and myself and the program director made a call early that day that we would put everybody in mask, gowns and gloves whether they were taking care of ankle sprains. That was really radical at that time because it was alarming to patients coming in. The next day the provincial emergency was declared and there were directives for all emergency departments to do that.

On March 26, 2003, the Province declared a provincial emergency. Following the declaration of the provincial emergency, all hospitals in the Greater Toronto Area were directed to activate their Code Orange emergency plans. This meant suspending elective surgeries, restricting visitors, suspending non-essential visits by hospital staff, suspending volunteer work in hospitals, and restricting overall access to hospitals to essential services only.[482]

North York General, along with other hospitals in the GTA, was asked by the Ministry of Health and Long-Term Care to set up a SARS unit. North York General's first SARS unit was established on 3 North (then pediatrics) at the Leslie site.[483]

On March 26, 2003, North York General issued its first SARS Update to staff. This marked the first of 96 updates to staff, distributed via the hospital's internal email system.

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[482] MOHLTC Fact Sheet, March 2003.

[483] The units previously on 3 North also moved. The pediatrics unit moved to the old labour and delivery unit on 2 West, and eating disorders moved to 8 North.

By March 28th, 2003, the hospital had established a Logistics Command Centre at the General site, to serve as a central point of contact to respond to SARS-related issues.[484] The hospital also established the SARS Task Force Steering Committee.[485] The Steering Committee comprised 21 people representing various parts of the hospital. The group met daily throughout March and April. The minutes of the meetings were posted on the hospital intranet. The Steering Committee focused on day-to-day management issues such as hospital status, census of patients, changes to directives and communications with staff. Branching out from the Steering Committee were a number of subgroups, focusing on a wide range of SARS-related issues.[486]

North York General Hospital, like other hospitals in the Greater Toronto Area, scrambled to institute precautions, develop and adopt new policies and protocols that complied with the constantly changing directives from the Ministry of Health and Long-Term Care, and communicate this information to front-line staff. One member of the SARS Steering Committee spoke of the difficulty of keeping up with the directives and the enormous amounts of information coming out in the early days of SARS:

> Information was coming at us from it seemed all sides and from a few different sources. Some from the Ministry of Health and Long-Term Care and some from the Provincial Operations Centre. Early on it seemed as if we were drinking water from a firehose. We were getting information that was very important from world literature and World Wide Web. All that stuff had to be taken in and considered and integrated into practice.

As the directives came out, they had to be reviewed, understood, changed into hospital policy and communicated to staff. As one member of the SARS Steering Committee told the Commission, this was no small task:

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484. SARS Update #5, March 28, 2003.

485. At the end of April, the SARS Task Force Steering Committee changed its name to the SARS Management Team. The last meeting of the SARS Task Force Steering Committee took place on April 28, 2003. The SARS Management Team began meeting on April 30, 2003.

486. "Such as administration, the Branson site, staffing and human resources, building issues, patient – including ER [emergency room], infection control and discharge and followup, supplies, communication – staff/external and physicians, policy and directives, command centre, and front door." NYGH SARS Task Force, minutes, March 31, 2003, at 1600-1730.

> Some of them [the directives] were complicated … There were times when they didn't make sense. There were times when it seemed that we were changing direction from what we had been taught the day before. One of the roles of our Task Force was to try and make them useful for the front-line staff. Some were very clear and direct and explicit, and those we basically passed on to the staff and educated them right away. Others were vague and tough to interpret, so our job was to try to make them something that could be put into practice.

At times it took hours to go through the directives. For many, it seemed like an inordinate amount of time was spent trying to figure out how the directives had changed and what those changes meant within the hospital.

And time was a precious commodity in the early days of SARS, as there were many competing issues that needed to be resolved. As noted above, one of the early challenges of SARS was to establish a number of isolation rooms with negative pressure. This was particularly key for the emergency department and for any areas that would admit and provide care to suspected SARS patients. It was a difficult task, compounded by the fact that they still did not know everything they needed to know about SARS. One physician explained the challenge they faced as they established negative pressure rooms to care for SARS patients:

> We were using negative pressure wards that we had generated through the help of our engineering and building people. And that's how we looked after the SARS patients. During SARS I we looked after them on wards that were completely isolated and completely negative pressure. They were basically an entire ward that was designated to serve that purpose, and then we sort of retrofitted them to become negative pressure using our ventilation system. It wasn't ideal probably, initially. And we didn't know everything in SARS I about how the virus was transmitted. So, some of the rooms were very hot. For example, one of the nurses had a fan in there. Obviously we knew through SARS II that that's really not a good thing. We didn't necessarily know that in SARS I. There were things that we didn't know … we obviously didn't do later on when we knew how things were actually transmitted. And part of it is just because we were all scrambling to do the best we could for the patient, to make it as safe as we could. Because what we did was better than having that patient put in a non-isolated room and a non-negative pressure room. But was it a perfect negative pressure room? No.

Another big issue North York General and many other hospitals in the Greater Toronto Area faced early into the outbreak was a shortage of personal protective equipment. By March 31, 2003, the hospital had only enough N95 respirators in stock to last two days. The Task Force Steering Committee grappled with the problem of locating sufficient supplies, in a market that was being tapped by every hospital in the province. As the minutes noted:

> NYGH has enough N95 masks in stock to last two days. Directives state that N95 masks should be given to staff in all patient care areas. As more stock becomes available to us, we will filter the N95 masks to all areas. [Name] cautioned that with the current stock we cannot give everyone an N95 mask. [Name] says he will continue to try and get more masks from the MOH supply, but to date they are not sending us enough N95's.

As the requirement for precautions increased, the hospital, like other institutions in Toronto, rushed to obtain personal protective equipment for its staff. The SARS unit, emergency department, front-line staff, direct patient care workers, community care centre staff and labour and delivery staff were the only units who would receive N95 respirators. Anyone else who wanted to wear a respirator had to use yellow procedure masks.[487]

By April 2, 2003, the Ministry of Health and Long-Term Care warned the hospital that, from an epidemiological perspective, it should expect to see more cases that week.[488] This meant that the hospital would need a greater capacity to isolate and care for SARS patients. In response, the hospital announced to staff that a new SARS unit would be established on 8 West. The capacity of the new SARS unit was to increase from the current 23 beds on 8W to 38 beds for SARS patients, including beds in the existing unit on 3N, if needed.

This would be one of many changes to the location of SARS patients over the course of SARS I and II. The changes were as follows:

March 27, 2003 – April 2, 2003	1st SARS unit was created on 3N
April 2/3, 2003 – May 22, 2003	2nd SARS unit was created on 8W
May 22/23, 2003 – June 2, 2003	3rd SARS unit was created on 5SE
June 2/3, 2003	4th SARS unit was created on 6SE[489]

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[487] Follow-up of Discussions and Decisions, Monday, March 31, 2003 – 10:00 a.m.

[488] SARS Update #9, April 2, 2003.

[489] Wong et al., SARS Field Investigation at North York General Hospital, June 1–June 28, 2003 (SARS Field Investgation).

On April 2, 2003, the policy on personal protective equipment changed significantly as all staff in the hospital were now required to wear an N95 respirator at all times.[490] This directive would remain in place at North York General until May 7, 2003, when they began to relax precautions in some areas of the hospital. More will be said below about the changes in precautions in May and their connection to the second outbreak.

On Friday, April 4, 2003, North York General announced that because ten days had passed since the unprotected encounter with a SARS patient in the emergency department on March 23, 2003, the hospital's designation was changed from Level 2 to Level 1, under the hospital classification system established by the Provincial Operations Centre.[491]

The classification system established by the Provincial Operations Centre at the end of March[492] identified four levels to designate health care facilities, depending on whether or not they had SARS cases and if there was any unprotected exposure to staff or patients. Those levels were:

Category 0	Healthcare facility has no known cases of SARS (suspect or probable)
Category 1	No unprotected SARS exposure – staff and/or patients. Healthcare facility has one or more cases of SARS (suspect or probable)
Category 2	Any unprotected SARS exposure within the last 10 days but without transmission to staff or patients. The healthcare facility may or may not currently have one or more cases of SARS (suspect or probable).
Category 3	Unprotected SARS exposure with transmission to HCW's [health care workers] and/or patients. The healthcare facility may or may not currently have one or more cases of SARS (suspect or probable)

The classification system was significant because it determined things such as restrictions on patient transfer, quarantine for patients discharged from the facility, level of protective equipment required in various areas of facility, restrictions to visitors, and movement and management of patients within the facility.[493]

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[490] SARS Update #9, April 2, 2003.

[491] SARS Update #11, April 4, 2003.

[492] Directives to GTA/Simcoe County Acute Care Hospitals, Saturday, March 29, 2003.

Hospitals with SARS patients paid a big price if they were upgraded from Level 1 to Level 2 or, even worse, to Level 3. Moving to a Level 2 or Level 3 designation had profound consequences on the day-to-day workings of the hospital, for everyone at the hospital, such as:

- Level 2 & 3: Visitors prohibited except in special circumstances (and then on full droplet and contact precautions);
- Level 3: Closed to admissions and no new clinical activity permitted; Level 2: Emergency and urgent cases and admissions only;
- Level 3: Use of full droplet and contact precautions for all direct patient contact and use of a N95 mask or equivalent for all staff in the facility; Level 2: Use of full droplet and contact precautions for direct patient contact in all area(s) affected by the unprotected exposure;[495]
- Level 2 & 3: No transfers to long term care facilities and no admissions from long term care facilities unless there were no other alternatives;[495]
- Level 3: Working quarantine for essential staff only, all other staff on home quarantine; Level 2: Essential staff only in areas affected by the unprotected exposure. Staff must work in the affected areas only and cannot work at other facilities and are on working quarantine.[496]

In contrast, a Level 1 facility was permitted a gradual return to normal clinical activity, could permit visitors as per hospital discretion, had no requirements in respect of quarantine of staff, did not require all staff to wear protective equipment and could transfer patients out to long-term care facilities.[497]

It is evident from North York General Hospital records that the SARS Task Force worked hard throughout both outbreaks and did its best under very difficult circumstances. It was a remarkable achievement for the hospital and everyone in it that no staff or patients contracted SARS during these early days despite the infectious nature of this deadly disease and all the challenges it brought.

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[493] Description of Activity for Acute Care Facilities by SARS Categories, April 14, 2003.

[494] And use of full droplet and contact precautions in any area with a patient who failed the SARS screening test or had respiratory symptoms suggestive of an infection, and for taking care of suspect or probable SARS cases. This was the required level of precautions in a Level 1 facility.

[495] Directive Regarding Transfer of Individuals from Hospitals To Long-Term Care Facilities (LTCF).

[496] Description of Activity for Acute Care Facilities, April 14, 2003. The above is a summary of the key points in the document. To see all the differences between the four levels, reference should be made to the original source document, the Description of Activity for Acute Care Facilities, April 14, 2003.

[497] Description of Activity for Acute Care Facilities, April 14, 2003.

As evidenced by the updates and the recollections of front-line workers, this was a terrifying period for everyone, as the course of the outbreak remained uncertain and directives from the Province changed almost daily. The hospital struggled to respond to the emergency in the face of so much that was new and unknown, while front-line workers struggled to work in an environment where the direction they were getting in respect of protective equipment and management of SARS cases seemed to be constantly changing.

The change to a Level 1 designation on April 4, 2003, signified a return to a more normal working environment. It looked as if things were under control, as there were no known unprotected SARS exposures.

But on the weekend of Saturday, April 5, and Sunday, April 6, just after the hospital was downgraded from Level 2 to Level 1, things changed drastically. On April 6, 2003, North York General reported to staff that for the first time, staff members were under investigation for SARS.[498] As April progressed, five nurses were investigated for SARS. With the exception of one, who was initially reported to staff as not SARS then later as SARS, all of these cases remained under investigation. Three were eventually classified by Toronto Public Health as "does not meet case definition," while the fourth remained classified as a "person under investigation" until after the second outbreak. All five nurses were subsequently classified as SARS, four of them probable cases, and one a suspect case.

With the exception of one nurse whose story will be told in greater detail below, there appears to be no link between the illness of staff in April and the second outbreak. That being said, the story of the second outbreak must be told in light of their illness. The fact that health workers were becoming ill in April weighed heavily on the minds of those who went to work in the hospital. It brought home the risk they all faced simply by going to work, and underscored the importance of ensuring worker safety through strong precautions. It also marked the first time the hospital had to communicate with the staff about the illness of one of their own while simultaneously trying to assure staff that they were safe.

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[498] To protect the privacy of these health care workers, they will be referred to in the report as simply Health Worker No. 1, Health Worker No. 2, Health Worker No. 3, Health Worker No. 4 and Health Worker No. 5.

In the days and weeks that followed, as more staff and patients became ill, those working within the hospital and those with family members in the hospital would come to question not only their own safety but also the truth of continuing reassurances from the hospital that it was safe and that certain individual cases that looked like SARS were not SARS. No one could anticipate the events that unfolded at the hospital throughout April and May, and no one could foretell the lasting impact that SARS would have on North York General Hospital, its patients and its staff.

Five Sick Nurses

As April unfolded and it appeared that the outbreak was being contained, hospitals and the community at large anticipated a return to normal. No one wanted to see more SARS cases. Everyone wanted it to be over. But at North York General, illness among health workers would cause some staff to question their safety and to worry that perhaps not all cases were being properly identified.

In retrospect, we now know that one of the ill health workers, not classified as SARS at the time, was connected to the second outbreak at North York General Hospital, as her likely source of exposure was a patient on 4 West (the unit later identified as the epicentre of the second outbreak) whom she cared for in the intensive care unit (ICU). At the time of his illness he was not recognized as a SARS case; he was diagnosed with SARS retrospectively after the outbreak at North York General was identified on May 23, 2003. The other four nurses appear to have no direct link or connection to the second outbreak.

However, the stories of the ill health workers reveal problems seen throughout the story of SARS: tensions between clinical diagnosis and the strict case definition, requiring a known link before a case could be identified as SARS, lack of clarity around communication with staff, lack of clarity around the meaning of a classification of a patient as a person under investigation, the importance of education and training on the use of personal protective equipment, and poor communication in cases involving more than one hospital.

Three Sick Nurses

By April 6, 2003, three nurses, all from the same unit, were under investigation for possible SARS.[499] The transmission to three nurses was frightening for all those who went to work in the hospital each day, hoping that they were safe.

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[499] NYGH SARS Task Force Steering Committee, Minutes of Meeting, April 7, 2003, 1600 hours, Main Boardroom – General Site.

Health Worker No. 1 developed a temperature on March 30, 2003, while at work. She continued to be unwell for the next few days. She told the Commission that when she reported to occupational health, she was told to stay home and, if her condition continued to deteriorate, to see her family doctor. She made three visits to family physicians over the next three days, the final visit including a chest x-ray. On April 5, she received a call from the hospital inquiring about her condition. When she reported that she remained unwell, she was told to come to the emergency department. She was admitted to hospital on April 5, 2003.

Health Worker No 2 had worked with Health Worker No. 1 during the time when Health Worker No. 1 first began to feel unwell. She recalled that Health Worker No. 1 had complained to her that she felt unwell and that they had not been wearing their masks when they were on break together. Health Worker No. 2 began to develop symptoms on Monday, March 31, 2003. On April 4, she saw a family doctor, who suggested she go to the emergency department. She did so, and was admitted to North York General Hospital on Friday, April 4, 2003. At the time of her admission she reported that her colleague, Health Worker No. 1, with whom she had been in contact, was also unwell.

A third colleague, Health Worker No. 3, began to feel unwell on Thursday, April 3. By Sunday, April 6, 2003, Health Worker No. 3's condition had worsened, and she was admitted to hospital later that day.

All three nurses worked on 8 West, which was then an acute geriatric and medicine floor. At that time there were no known SARS cases on the unit and there was nothing to suggest that any of these three nurses had been in contact with a SARS patient while working in North York General. While they were clearly connected to each other, their epilink to a SARS case was unclear. Public Health and the hospital commenced an investigation in an effort to account for this unexplained transmission. One hospital official described the news of their illness as a "huge concern."

On April 6, 2003, the hospital issued an update advising of the admission of the three ill staff under investigation for SARS and said:

> There is no evidence that SARS was passed on to these nurses when they were wearing protective SARS gear and caring for patients. None of these nurses were caring for SARS infected patients at NYGH. We know that these cases have caused concern among staff; we would like to remind everyone that proper protective gear and SARS precautions in all areas at all sites are very effective in stopping the spread of the disease. To

> date, we have done a good job of protecting ourselves and we will continue to aggressively protect staff and our patients.
>
> Infection Control and Occupational Health are working with Toronto Public Health to further investigate the above mentioned cases. Occupational Health will be contacting all known staff who had contact with these nurses between March 29 and April 4. We recognize that all of our staff need access to medical services and we are working setting up an assessment area. We will update you as soon as we know more information. If you are exhibiting symptoms of SARS, please contact Occupational Health [number provided].
>
> There is a suggestion that the nurses under investigation for SARS could have contracted the disease while they were having a break together in a staff lounge with their masks off and sharing food.
>
> At this time we would like to reinforce the Food Policy. The full Food Policy should be available in your SARS binder on your unit. Some key points of this policy are as follows:
>
> - Staff must sit at least one metre apart from other staff and stagger seating arrangements.
> - Do not share food.
> - Ensure you wash your hands before and after every meal.
>
> We also want to remind you when changing clothes before and after your shift, please maintain precautions by wearing your mask at all times.[500]

Initially, the source of their transmission was a puzzle. Dr. Barbara Mederski recalled speaking to Health Worker No. 1 in an effort to find out how she got SARS and said that although there were theories, the possible source of transmission was not clear at that time:

> [Health Worker No. 1] indicated that her mother had been at the Grace Hospital on the cardiac floor getting some kind of cardiac procedure. Her mother was completely well. She had absolutely no symptoms despite her age, her frailty or medical condition. She was perfectly well. So the fact

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[500] NYGH SARS Update, #12.

> that [Health Worker No. 1] was sick with a well mother, albeit had been at the Grace a few weeks earlier, was bizarre. [Health Worker No. 2] in turn had the connection of having shared food with [Health Worker No. 1], who we now realized probably, in retrospect, had already been ill by the time of that luncheon. So it made more sense that the two of them would be ill. And at that stage, because of the constellation of symptoms and the link with the Grace, albeit through a healthy party, I essentially labelled them as persons under investigation, probable SARS. That was in my own mind.

The hospital established a clinic to screen those staff members who had been in contact with these nurses, under investigation for possible SARS. Arrangements were also made to have the family of Health Worker No. 1 come to the hospital to be examined and have x-rays taken, to determine if they too were ill. Although the rest of the family was well, one family member was admitted under investigation for SARS.

Over the next few days Public Health, with infection control and the occupational health department at North York General, worked on identifying possible contacts of these nurses. Toronto Public Health sent a field epidemiologist to the hospital to review the cases and put together an epidemiological picture of who had contact with whom and how SARS may have been transmitted between these sick nurses. Potential contacts were identified to monitor them for symptoms and to place them in quarantine. In total nine nurses were identified as potential contacts. Fortunately, none of these contacts developed SARS.

On April 8, 2003, the hospital reported to staff that Toronto Public Health and the hospital continued to investigate a possible link back to Scarborough Grace Hospital. At this time they also reported that Health Worker No. 3 was not believed to have had unprotected contact with the other nurses, and that she did not have SARS-related symptoms.[501] They reiterated this message the following day.

On April 9, 2003, they provided the following update to staff:

> We currently have seven patients on the SARS Unit. The three staff members that remain under investigation for SARS are stable. As stated yesterday, it has been determined that the third staff member had no

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[501] NYGH SARS Update #14.

> unprotected contact with other staff, and does not have SARS related symptoms.[502]

Public health officials believed that the chain of transmission went from Health Worker No. 1 to Health Worker No. 2. Investigation to that point revealed that one of the nurses, Health Worker No. 1, had a connection to the Scarborough Grace Hospital, as her mother had been an inpatient between March 14 and March 18, at a time when SARS was spreading throughout the hospital. Health Worker No. 2 had unprotected exposure to Health Worker No. 1 in the staff lounge.[503] Throughout April, Health Worker No. 1 and Health Worker No. 2 remained under investigation for possible SARS.

Health Worker No. 3 told the Commission that she had contact with Health Worker No. 2 when neither was wearing a mask or other personal protective equipment. Health Worker No. 3 was initially classified as a person under investigation, but on April 22, her case was closed with Public Health as she was classified as "does not meet case definition." This meant that she did not meet the case definition for SARS, either suspect or probable, or for a person under investigation for SARS. Infection control and those involved in her care at North York General agreed with the determination that Health Worker No. 3 was not SARS. As Dr. Mederski, who was involved with all three cases, said:

> She had also worked on 8 West but not at the same time as the other nurses and actually did not have contact with them. And, in fact, her duties, shift duty was not very extensive, so she was just sort of coming in and out briefly and there was no clear link with either of the two other ladies or with any other epilink and neither were her symptoms compelling, but just by virtue of the fact that she was on 8 West and this coincided with both [Health Worker No. 1] and [Health Worker No. 2], we decided to bring her in as a person under investigation. And I think the few of us who saw her did not feel that she had SARS at that time but we still felt compelled to investigate to a point.

After the last update about these ill nurses to staff on April 9, 2003, their status was never clarified or updated again. Beyond the above information provided to staff, that they were ill and under investigation, it was unclear what the result was. Was it SARS,

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502. NYGH SARS Update #16.
503. NYGH SARS Update #16.

not SARS, or could be SARS but was still under investigation? There was no further explanation provided in the updates to staff, then or later, as to how these three nurses became ill, beyond the "possible link back to Scarborough Grace," and their exposure to each other while unmasked during breaks.[504]

Health Worker No. 1 was neither reported to staff as SARS nor ruled out as SARS. She remained under investigation as a possible SARS case throughout April and May. Health Worker No. 2 was neither reported as SARS nor ruled out as SARS, even though she remained a person under investigation until May 3, 2003, when she was classified as "does not meet case definition." The third nurse was reported to staff as early as April 8 as not SARS, even though she remained under investigation for possible SARS until April 22, when she was classified as "does not meet case definition." Throughout April and, in the case of two of the nurses, into May, Public Health monitored their symptoms, identified their contacts and monitored their contacts for symptoms. Public Health had not ruled out the possibility that these cases could be SARS.

The following chart provides an overview of the classification and communication to staff in respect of these ill nurses:

	Date Admitted to Hospital	**Classification by TPH**	**What Hospital Staff Were Told**	**Post–May 23 Classification by TPH**
Health Worker No. 1	April 5/06	Remained PUI[505] until changed to SARS on June 23	Under investigation	Probable SARS
Health Worker No. 2	April 4/06	Remained PUI, until classified as DNM on May 3	Under investigation	Probable SARS
Health Worker No. 3	April 6/06	Remained PUI, until classified as DNM on April 22	Not SARS	Suspect SARS

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[504] NYGH SARS Update #12.

[505] PUI is the classification category "person under investigation."

Even after SARS, despite the fact that infection control and occupational health were actively involved in the investigation into this cluster of staff illness, and despite it's involving three staff members, hospital officials remain unclear about the outcome of the investigation. Dr. Keith Rose, when asked to describe the investigation into this cluster of illness, said:

> There would be two parts to the investigation. Number one, how they got SARS, how they contracted it, what were their other contacts, what else needed to happen. And then there would have been the medical investigation of the patients to understand what disease did they really have. And my understanding was that the experts felt that these nurses, it was unlikely that they had SARS, and they had a rational explanation that they may have had another respiratory disease of which I don't know the details about. My understanding was that they felt very clearly that this was not SARS.

One member of the SARS Steering Committee, when asked what they understood to be the SARS status of these nurses, said:

> At that time I don't think they could actually say they were or say they weren't because of the wishy-washy epilink. Because I would have thought if they thought it was SARS, they would have closed us down.

The report of the Joint Health and Safety Committee at North York General made the following comments, highlighting the continued lack of information among front-line staff on the cause of this cluster of illness:

> The epidemiological link (the epilink) responsible for this mini-outbreak on the original 8W has not been identified and the situation remains unexplained. Whether this may have led to the spread of SARS to any other areas of the hospital is unclear.[506]

All three nurses were retrospectively classified as SARS: two as probable cases and one as a suspect case. To date the prevailing theory among public health officials remains that Health Worker No. 1 contracted SARS through contact with her mother, who contracted it on the coronary care unit (CCU) at Scarborough Grace

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[506] North York General Hospital, Joint Health and Safety Committee, Report, p. 37 (JHSC Report).

Hospital, and that Health Worker No. 1 spread SARS to the other nurses through unprotected contact that occurred primarily during staff breaks.

The story of these three nurses is also important because it underlies a later theory about the origin of the second outbreak of SARS, a theory that was developed in hindsight, after the second outbreak, and that was announced by Toronto Public Health on June 13.[507] According to this theory, Health Worker No. 1 contracted SARS from her mother, who had been a patient at Scarborough Grace,[508] and then passed it on at North York General to Patient A, a 96-year-old patient on 8 West. When 8 West became the SARS unit, Patient A was transferred to 4 West, the unit we now know was the epicentre of the second outbreak. This theory has since been rejected and the source of Patient A's exposure remains unknown. Patient A's story and the story of 4 West are told later in this chapter. An investigation into the outbreak at North York General found no evidence of any link between Health Worker No. 1 and the second outbreak.[509]

While no one knows with any certainty what caused the second outbreak at North York General, public health officials no longer consider that Health Worker No. 1 or the other two nurses had any connection to the second wave of SARS at North York General Hospital. Their story does not impact on the second outbreak as an early warning sign, a causal link or a missed alarm.

Their story is nonetheless an important part of the history of SARS at North York General. Not only did three health workers become ill, impacting their health, their fears of infecting their families[510] and their concern for their own lives, but their illness underscored to other staff the risk they faced just by coming to work.

By mid-April, with confidence that the contacts of these nurses had been identified and that the cluster of illness did not appear to be extending beyond these nurses, the matter appeared to have been put to rest. Although these nurses had not been clearly identified as SARS nor had SARS been ruled out, if they were SARS there appeared to be no further spread of the disease and a plausible explanation for its transmission and spread had been identified.

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[507] Toronto Public Health, Daily Technical Briefing to the Press, June 13, 2003.

[508] Toronto Public Health SARS Document, August 25, 2003, reported that Health Worker No. 1's mother was a roommate of two patients at Scarborough Grace Hospital, both later identified as SARS. Health Worker No. 1's mother's serology tested positive for SARS antibodies.

[509] SARS Field Investigation.

[510] A close family member of one of the ill health workers was hospitalized under investigation for SARS and was later classified as a probable case.

By April 11, 2003, the hospital was preparing for an anticipated return to Level 1 status and planning for an increase in activity,[511] but as April progressed, the reality of the danger of SARS would resurface, as there would be further cases of staff illness. Two more nurses would be investigated for SARS, but both would be misdiagnosed and misunderstood, adding to the anxiety of those front-line staff who wondered just how safe they were and if they knew what was really happening in the hospital.

An Infected Nurse on the SARS Unit

On April 22, 2003, North York General staff were told in an update that a nurse from the SARS unit was under investigation for SARS.[512] This transmission was alarming, as it occurred in an area of the hospital that, while at great risk, was supposed to be the most protected in terms of worker safety.

Health Worker No. 4 began working in the SARS unit towards the end of April. On one particular occasion, she recalled working with a patient who was thought to be a probable SARS case. He was quite ill and was having difficulty breathing. Health Worker No. 4 spent more than 30 minutes in the room with him before he was transferred to the intensive care unit. She began to feel unwell and went to the emergency department at Scarborough Centenary Hospital late in the evening on Friday, April 20. Early the next morning, April 21, she was transferred to North York General Hospital, where she was admitted to the SARS unit.

Health Worker No. 4's case was brought to the attention of the North York General Hospital SARS Task Force, whose minutes report that her illness was "believed to be most likely community acquired pneumonia" but that "the possibility of SARS had to be investigated."[513] The minutes also reported that the case was under investigation and proceeding as rapidly as possible.

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[511] North York General Hospital, SARS Task Force Steering Committee, Minutes of Meeting, April 11 and 12, 2003, 10:00 a.m., Main Boardroom – General Site.

[512] North York General Hospital, SARS Update #23. The staff illness was also referenced in the April 21 SARS Steering Committee Minutes.

[513] North York General Hospital, SARS Task Force Steering Committee, Minutes of Meeting, April 21, 2003, 10:00 a.m., Main Boardroom – General Site.

Later that same day, just a few hours after the Task Force Committee meeting whose minutes noted that the case was "under investigation," an update was sent to staff advising them that the staff member who had come down with symptoms of respiratory illness and been admitted to the SARS unit had been investigated by infection control and that the investigation concluded that the "staff member does not have SARS." The update said:

> A key topic of discussion this morning was about a NYGH staff member who has come down with symptoms of a respiratory illness and was admitted to the SARS Unit. A detailed investigation by Infection Control and Public Health revealed that the staff member does not have SARS. We are treating anyone with respiratory illness with extreme precaution to ensure that we clearly identify and treat suspected or probable SARS cases as quickly as possible.
>
> As a result of this information, we will continue on to function on Level 1 status.[514]

The minutes from the Task Force Committee meeting the following day, April 22, reflected this:

> Sunday night: nurse from NYGH Sars unit asymptomatic, remains on SARS unit, not SARS.[515]

But this conclusion would change.

On April 28, 2003, the Task Force minutes reported that the same nurse who had previously been reported to staff as not SARS was now in the ICU at North York General Hospital, diagnosed with suspect or probable SARS. The minutes also reported that Toronto Public Health had investigated the matter previously and was doing so again, but the only epilink they found was 8 West, the SARS unit at North York General Hospital.[516] On the other hand, the minutes report that there were "no apparent breaches in precautions.'[517] The precise cause of the transmission remained unclear. The update provided that day told staff:

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[514] NYGH SARS Update #23.

[515] North York General Hospital, SARS Task Force Steering Committee, Minutes of Meeting, April 22, 2003, 10:00 a.m., Main Boardroom – General Site.

[516] North York General Hospital, SARS Task Force Steering Committee, Minutes of Meeting, April 28, 2003, 10:00 a.m., Main Boardroom – General Site.

> A main topic of discussion this morning was about a staff member under investigation whose illness had progressed since being admitted eight days ago. Infection Control and Public Health interviewed all known contacts of this staff member when the investigation first got underway, and spoke with them again yesterday. Everyone is in good health. This situation is being carefully monitored.[518]

The following day, April 29, 2003, staff were given the following update:

> We also have an update to share with you about the staff member whose illness has progressed. It was confirmed last night that the staff member has probable SARS. A full, aggressive investigation into the possible source of infection continues.[519]

In that same update, on April 29, hospital officials reported to staff that two patients on 7 West, the psychiatry floor, had been diagnosed with probable SARS.[520] More will be said about the psychiatric patients below.

For some staff, this apparent flip-flop concerning Health Worker No. 4 was troubling, as they wondered if they were being given the right information or if those in charge really knew what they were doing. How could someone be ruled out so definitively, so quickly, and then later turn out to be SARS?

But those closely involved in the case explained that it was not unusual to identify a SARS case after the clinical picture deteriorated. As one doctor who treated many SARS patients explained:

> It may look odd now in 2006, but at the time I think SARS was a new disease and the presentation of SARS was fever, fatigue and achiness, which had nothing specific compared to the rest of any other viral illness, and we were really learning at the time as opposed to knowing

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517. North York General Hospital, SARS Task Force Steering Committee, Minutes of Meeting, April 28, 2003, 10:00 a.m., Main Boardroom – General Site.
518. NYGH SARS Update #27.
519. NYGH SARS Update #28.
520. NYGH SARS Update #29.

> what the illness is all about. So, again, I don't have any recollection of seeing this patient or whatever, but looking back it would not be a surprise to say that somebody maybe decided not to label as SARS initially but as time goes by see that the patient has become more and more like SARS and then to change the diagnosis afterwards. It was not impossible, at that time.

Dr. Mederski recalled that although Health Worker No. 4 clearly had a potential epilink through her work on the SARS unit, Health Worker No. 4 was adamant that she had not breached protocol and that her illness may have other explanations:

> When she first presented, again without the clinical chart, I can't remember if she did or did not have chest x-ray findings. She had a potential epilink insofar as she had been working on the SARS unit. Now this would have been obviously a major, major thing. We are talking breach of protocol in terms of potentially getting infected. The patient herself was adamant in all questioning that she had never breached protocol, that she had never done anything that could possibly have rendered her contaminated by SARS, and she was adamant that she had chronic recurring respiratory infections, of which this was merely another bout, and was adamant emphatically that she wanted to leave the hospital. She was quite stable the first few days, and I would guess then, in retrospect, this may have been what was happening in terms of the definition of whether she fitted SARS, because if she was adamant that she did not breach any barriers, then how could she have gotten infected with SARS. There was no other way she could have become infected. She didn't leave, she didn't go anywhere except home and to the SARS unit, home and to the SARS unit. So that's, I think, the way it was viewed by the investigators at that time, when we were feeding the information. There would be Public Health getting information from us and the daily update which they did, and making decisions around that, as well as my own clinical impression and those of my consultants who would have seen her.
>
> So I guess at this point that her clinical condition definitely worsened by around the third day. She came in on a Sunday and, I think, by the Wednesday she was quite ill and by then she had developed clear-cut infiltrates on her chest x-ray and was clearly showing a rapid progression

> that was quite different from the earlier days. And so, that may have then led to, hey, you know what, notwithstanding the apparent absence of contact, this is progressing now like a SARS case.

However, saying that she might be SARS but that they could not find a source of exposure was different from saying with certainty, as was done in the early days of this case, that this was not SARS. Even in the early days, those involved in Health Worker No. 4's case thought this could be SARS. So how did the message become so emphatic that it was not SARS?

At play in this case, and what will be seen as a recurring problem at North York General in the days leading up to the second outbreak, was a lack of clarity around the roles of hospital clinicians, infectious disease experts, Public Health and the Provincial Operations Centre: that is, the difference between a clinical diagnosis of SARS, or a clinical belief that a patient had SARS, and the formal classification of a patient as having SARS. Dr. Mederski reported that clinically, Health Worker No. 4 appeared to be a case of SARS, but that it was initially ruled not to be SARS:

Question:	Such a definite statement, a detailed investigation by Public Health revealed that the staff member does not have SARS. Now I am presuming that this kind of a message, this is going out to the hospital in the present, doesn't get said unless that is what the report is to the Task Force, and it just seems so definite, that somebody has gone in, they have done a detailed investigation and they are saying this patient does not have SARS. And as we see within some period of time that she does have SARS, it's raising the question, who was making the call?
Dr. Mederski:	This is case number four, five or six, or maybe even seven, but I am having, my personal opinions are SARS and my adjudicators are feeling probably not or possibly not at that point.
Question:	Or definitely not?
Dr. Mederski:	Or definitely not.

Question: The adjudicators were Public Health?

Dr. Mederski: Well, Public Health worked in concert with the Scientific Advisory Committee and POC's [Provincial Operations Centre's] scientific physician leaders, and I know for a fact that they always went to them for any dubious cases or questionable cases. And again, I would have called the POC. I had most of the time encountered [one of the doctors taking calls at the Provincial Operations Centre] answering the phone, because they had sort of a roster, and he then would in turn say to me, well I have to speak to Dr. [Donald] Low, or you have to speak to Dr. Low, or I'll talk to Dr. Low and then somebody will get back to you. I also know that that's where I was channelling through to Bonnie [Dr. Henry], to try to get to other physicians who had knowledge of these cases, because again it was kind of repertoire sequence, and asking them what was going on, and the decision would come either in the form of a discussion over the phone together as we did on the other cases or, as later, we had them actually come on site.

Also at play throughout the story of North York General Hospital was the breakdown in communication between Dr. Mederski, the infectious disease specialist who was in charge of communication with Public Health, and others. Although Dr. Mederski expressed the view, quoted above, that she was overruled with respect to this case, Toronto Public Health records dated April 21 report her as saying that she was "confident [that Health Worker No. 4] has community acquired pneumonia – Not SARS!"[521] This is consistent with Dr. Mederski's own evidence that the case was not at the outset an obvious case of SARS.

When case adjudicators came on site on April 27 to review this nurse's case and the case of two ill psychiatric patients, whose story is told below, they determined that Health Worker No. 4 was SARS.

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[521] Toronto Public Health case files for Health Worker No. 4, SARS Program Progress Notes, dated April 21, 2003.

Toronto Public Health officials said that their role was never to determine a clinical diagnosis of the patient and that they never overrode a clinical diagnosis of SARS. Their role was to decide if a patient met the case definition and to provide epidemiological support. As Dr. Bonnie Henry explained:

> There are two parts, there is the clinical diagnosis and how you manage a patient, then there is the whole part of our responsibility at Toronto Public Health to report on numbers of SARS to the federal level and the Province and Health Canada, and that was a different issue altogether. That was much more about, do you meet this very narrow WHO [World Health Organization] definition that's adopted, and if you don't have an epidemiological link, then you don't officially meet that definition and it's a numbers game in a sense, which is a little bit separate from the individual picture that we were involved with. And certainly in April, North York was not the only facility we were involved with. There were daily discussions with multiple facilities about multiple patients who were on the SARS units. I think we had 19 SARS units at one point where we had contact daily with them, about all of the cases. So if something was misinterpreted perhaps, by Barbara [Dr. Mederski], if we said we are not going to include this person in, or they don't meet the case definition for probable SARS, maybe we had said something like that, she may have interpreted that as us saying she [Health Worker No. 4] doesn't have it, I don't know. I am just speculating that those are the types of things that could have happened.

As many doctors pointed out to the Commission, regardless of the actual classification of a person as SARS or not SARS, those cases at North York General where there was a suspicion of SARS were put in isolation and handled with precautions. Treatment decisions were not affected by a patient's classification according to the case definition. As Dr. Mederski told the Commission:

> We did not know what to treat SARS with. The direction about how to treat these patients was, do essentially what you would do with any other respiratory-infected patient. So, give them all the different antibiotics you think they may need, do this and that, but additionally, if you really think it is, consider using steroids and ribavirin. So, those would really be the only salient differences between treating a sick respiratory case of other sorts and a SARS case. The isolation would technically be the same or should be the same. The degree of isolation, although if it's

> somebody who's well, it should be the same, basically. But the actual issue of the epilink then, or not having it, doesn't change how you treat them because you are still going to treat them with everything you have at your hands, if it's a very ill patient. You are also allowed to just observe. You can just sit by and watch a patient depending on how stable they are. You don't have to treat, there is no such thing as treat right from the day they walk through the door, unless the treatment is indicated. So, whether the patient was identified as SARS or not, if they had nebulous findings, were not terribly ill, one would just sit back and observe and watch them closely, monitor them, do investigations to what was available to us at the time and watch what happened. And then, with the notion that this may end up being a SARS case, have a much lower threshold for charging in with the steroids and the ribavirin, which at that particular time were the only thing that differentiated SARS from non-SARS treatment.

While the medical treatment may not have been impacted by the formal classification or description of a patient, this misunderstanding of the respective roles had profound consequences for the information that was provided to staff. As will be seen time and time again at North York General, where Public Health determined that a case was not SARS for classification purposes because it did not meet the case definition, the conclusion taken by hospital officials and provided to staff was that the case was not SARS. But simply because a case did not meet the case definition at that time did not mean it could be ruled out as SARS. A person under investigation, and even one who did not meet the case definition at that time, could later end up being classified as SARS.

Although Health Worker No. 4 was initially determined as not SARS because she did not meet the case definition, she was under investigation for SARS and remained a person under investigation by Public Health from the time she was admitted to hospital until she was ultimately classified at the end of April as probable SARS.

The illness of Health Worker No. 4 caused concern for both the hospital and public health. Because of the protective environment of the SARS unit, they quickly determined that there appeared to be no unprotected contact with other patients or staff. But it was still unclear how Health Worker No. 4 contracted SARS. While she was hospitalized, battling SARS, she was repeatedly interviewed in an effort to understand how she had become infected. She recalled how frustrating the experience was because she was so ill and she was unable to provide an easy explanation for how she got SARS.

There are many possible explanations for her illness and no one will ever know with certainty precisely when and how Health Worker No. 4 was exposed to SARS.[522] Like the three health workers who became ill in April, Health Worker No. 4 appeared to have no connection to the second wave of SARS at North York General.

Around the same time that staff were hearing that Health Worker No. 4 did have SARS, some would also learn about the illness of yet another nurse. This fifth sick nurse appeared to fall under the radar completely, as both hospital officials and staff at North York General seemed unaware of her case. Significantly, had Health Worker No. 5 been identified as SARS at the time, her case would have represented transmission of SARS within the hospital, from a completely unknown and unidentified source, in an area where SARS was not believed to be present. And, as we now know, her illness, had it been identified, may have been an important early signal that there were unidentified cases of SARS on 4 West at North York.

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[522] Health Worker No. 4 reported that when she worked on the unit, she did wear the personal protective equipment as required by hospital policy. She told the Commission that she had not been fit tested, and she wore a respirator that she later discovered did not fit her. Also potentially reducing her level of protection was the fact that she was in the habit of wearing a surgical mask underneath the required N95 respirator, as she thought this would offer a higher level of protection. Because she had not been fit tested and had not been trained on how to properly apply the N95 respirator and ensure a proper seal, she was unaware that by wearing a surgical mask underneath, she was potentially preventing a proper seal being made by the N95 respirator. Although, as noted above, when and how she was exposed to SARS remains unknown, her story underscores the importance of proper training and use of personal protective equipment.

A Fifth Sick Nurse

On April 30, 2003, another nurse from North York General was admitted to hospital under investigation for SARS.[523] Like the three nurses who were investigated earlier in April, Health Worker No. 5 had not worked with any known SARS cases.

Although it turned out in the end that she had SARS, a series of systemic failures together with the inherent difficulty of diagnosing SARS led to a failure to identify SARS.

Health Worker No. 5 recalled working during a night shift on April 27, 2003, with a patient who had previously been a patient on 4 West, the orthopedic floor that was the epicentre of the second outbreak. This patient developed respiratory problems and was transferred to the intensive care unit on the 6th floor at North York General Hospital. Health Worker No. 5 recalled that at that time it was believed that the patient had pneumonia, and that no one suspected SARS. She recalled taking a sputum sample from him, and she also recalled using suction on him and that there was some spray. Health Worker No. 5 could not recall whether or not she was wearing a mask when she cared for the patient. She reflected that at that time it was her understanding that if the patient was not suspected as SARS, staff did not have to wear a mask. Hospital policy, however, required that all staff wear N95 respirators in all patient care areas.[524] Like Health Worker No. 4, her misunderstanding as to the use of protective equipment underscores the importance of training and education for everyone working on the front lines of patient care.

The following day, April 28,[525] she began to feel unwell. She went to Toronto General Hospital, where she was put in isolation. She was told by doctors that they did not think that she had SARS. She reported that she continued to have a fever, muscle aches and a headache. She recalled that even regular doses of Tylenol would not break the fever. She worried that she had SARS and openly expressed this concern while in hospital. But they did not consider her to be a SARS case. As she told the Commission:

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[523] Health Worker No. 5 went to the emergency department on April 29, and was admitted to hospital on April 30.

[524] North York General Hospital, SARS Task Force, "Droplet and contact precautions for staff," April 25, 2003.

[525] Toronto Public Health records report the date for her onset of illness as April 29, 2003, but it was her recollection that she began to feel unwell on April 28.

> All the time they didn't believe that I had SARS. I think it was because they thought I wasn't looking after diagnosed SARS patients. I was just working on a regular unit, so they didn't think I could have it.

While Public Health and doctors did not ultimately classify her as SARS, Health Worker No. 5 remained under investigation for SARS for some time. A May 6, 2003, x-ray report included the notation:

> History: Rule out pulmonary embolism. Query SARS.[526]

The report also included the following summary of findings:

> These findings are inherently nonspecific. It could be caused by an inflammatory process as SARS, but also by any other infectious agents. The wedge-shaped opacity in the right lower lobe could also represent an infraction.[527]

Initially, her clinical picture was unclear. As a Toronto Public Health report noted:

> Her clinical picture also remains unclear (ie not following a SARS pattern) despite being 2 weeks into her illness now. She has had a fluctuating fever throughout, mild intermittent cough beginning May 7, some intermittent subjective SOB despite good 02 sats, and occasional pleuritic-type chest pain. She had multiple normal CXRs, then a CT May 7 showing LIL and RLL infiltrates. Her radiologic picture has not progressed. She is clinically improving on azithromycin, ceftriaxone, and steroids.
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> She has had a negative stool PCR for coronavirus, other SARS work-up negative so far with more lab tests pending. Current clinical diagnosis is "unlikely to be SARS", persuing ? atypical presentation of TB and considering bronchoscopy.[528]

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[526] Report, dated May 9, 2003.

[527] Report, dated May 9, 2003.

[528] Email from Toronto Public Health to MOHLTC re: Urgent Canada SARS, May 12, 2003.

The physician in charge of her case at Toronto General Hospital said that while SARS was questioned from the outset, he was repeatedly assured that there was no possible epilink. As he told the Commission:

> So initially I thought that her symptoms were compatible with SARS, but we thought she had not had any contact with SARS-infected patients or a staff member, and that was based on information from Public Health. So initially, before we were able to contact Public Health and have it worked out, I thought, well, maybe she had had some contact, but then after that it was vigorously denied that she would have had any contact with them.

Her physician said that it never became clear during the course of her illness that she had SARS. In addition to not having an epilink, her clinical presentation was not clear and lab tests suggested a possible alternative diagnosis.

Compounding the difficulty of diagnosing SARS was the fact that there was still no quick, reliable test to confirm or rule out SARS. Although Health Worker No. 5's physician sent specimens to the National Microbiology Lab for antibody testing on April 30, on May 13, and again after her discharge on May 23, results of convalescent serology testing were not available until after the second outbreak was discovered, at which time an epilink to a SARS case was also discovered.[529]

Health Worker No. 5 remained classified as a person under investigation for her entire admission to hospital, from April 29, 2003 until May 16, 2003. Toronto Public Health reported that during this time they did extensive investigation of her case and could find no evidence to support any exposure to SARS. When she was released from hospital on May 16, 2003, she was released on home quarantine, and she recalled that Public Health spoke to her repeatedly while she was in hospital and continued to monitor her after her release from hospital, while she was on home quarantine.

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[529] The problem with a lack of timely and reliable lab testing would plague the SARS response. Without a reliable lab test and timely access to results, treating physicians and public health had to diagnose SARS on the basis of clinical presentation and the existence of an epilink. Because the clinical presentation of SARS was similar to so many other diseases, including pneumonia, the epilink became an important part of the diagnostic too. However, as noted throughout this report, as we now know in hindsight, the epilink could not always be identified. It is critical during future outbreaks that lab testing be coordinated and communicated in an effective and timely manner. The Commission endorses the many thoughtful recommendations of Dr. Naylor and Dr. Walker, as well as reiterates its own recommendations, which underscore the importance of improved information systems to allow the exchange of necessary information between local health units, hospitals and provincial laboratories and to ensure that the provincial labs have the capacity and the resources to perform vital scientific research and testing that is critical during a health crisis.

Public health officials report that doctors at Toronto General Hospital did not believe she had SARS and that they agreed with that assessment. As in many cases that went undiagnosed in the days leading up to the second wave of SARS, her lack of an epilink appeared to be a key factor. As Dr. Henry told the Commission:

> They [Toronto General] didn't feel she had SARS, they didn't feel she was very sick. We carried out an epidemiologic investigation with North York, trying to figure out when she worked and was she on the SARS unit and was she around anybody who we knew was SARS. And there was something about the emerg, I don't remember the details. And in my discussions with Toronto General [Hospital], who were managing her, I think it was equivocal whether she had been anywhere that might have exposed her. We followed up with all of her contacts, of which there were not many as I recall. None of them became ill, and in some cases that was an indication that there was actually something that was going on, including her co-workers who we followed up with. Nobody else became ill. And my understanding was that the hospital's final decision was they didn't feel that she had SARS.

Health Worker No. 5's treating physician told the Commission that his opinion as to whether she had SARS fluctuated. One of the key factors was the repeated assurance that she had had no contact with a SARS case:

Question:	Do you recall if you ever expressed an opinion to Toronto Public Health that you ruled out SARS, or this is not SARS?
Answer:	I can tell you that my opinion fluctuated from time to time, but I don't think I ever was convinced at that time that it was SARS, but it would have varied because, of course, it was very normal basically, and later on she did develop infiltrates.

Question: So you weren't convinced it was SARS because the course was wrong and she didn't have infiltrates?

Answer: I think the big problem here is the lack of an apparent, according to them, the definition of an actual person that, if you look through the case definition, it is pretty specific, requiring a contact. They denied that there was any contact. In that sense, I can't say "SARS," but I have to …

Question: "They" being Toronto Public Health?

Answer: Yes, everybody. I think it's the same situation, there were people that were questioning whether there was SARS. I wasn't aware of that. I think I talked to [Dr.] Bonnie Henry, who was up there, who was looking after the psych patients I think, and that's why I wondered about microplasma … So the message we were getting from North York General, from the public health people at North York General, was, it was looking like all these people that might have been SARS were having an alternate explanation.

Although she was a nurse from a hospital that was treating SARS inpatients, there was no evidence that she had been in direct contact with a SARS case, hence there was no epilink. More will be said about the reliance on the epilink later. When SARS II hit, it would become apparent that experts' inability to identify an epilink did not mean a case could not be SARS. But at the time that this nurse was diagnosed, the epilink was still a key component of the case definition and simply being a visitor, patient or health worker in a hospital that had SARS patients was not considered an epilink.

Although Health Worker No. 5 was not classified as SARS, doctors and public health officials in May were unable to rule SARS out. She remained a person under investigation for SARS. So what was happening during this time at North York General Hospital concerning this case? Was North York General involved in discussions about the case, given that it involved a staff member and a possibility them having SARS? Even the possibility that she might have SARS was significant. If she did have SARS, it meant that there was an unidentified source of exposure in the hospital, a fact that should have been of considerable concern for those managing the outbreak at the hospital and for those on the front lines of the hospital who were treating patients and were to be on heightened surveillance for new SARS cases.

But no one at North York General seemed to have a good awareness of Health Worker No. 5's case. At the time of her admission and hospitalization, little was said about this case at North York General Hospital. The only reference to it can be found in the Task Force Minutes of May 1, 2003, which reports simply that a North York General Hospital nurse had been admitted to Toronto General under investigation for SARS.[530] Nothing further was said about her case in any later updates or Task Force minutes.

Dr. Mederski, the infectious disease physician at North York General who had assumed responsibility during SARS I, recalled hearing about this case through the hospital grapevine, as nurses working in the ICU had heard about their colleague's admission and had asked Dr. Mederski about it. She recalled contacting the treating physician at Toronto General Hospital and being assured that they did not believe that Health Worker No. 5 had SARS.[531] She took this message back to the hospital and other staff, reassuring them that it was not SARS. She told the Commission:

> I went back to the hospital staff, who were obviously concerned again for their own safety, and said, no, no, they do not think this is a case of SARS at all, but because she happens to be there, they are just putting her under investigation and so on and so on.

When Dr. Rose, vice-president at North York General Hospital, was asked about his knowledge of this case or any investigation into this case, he said:

> And other than one of them being recognized in the SARS Task Force, and one of them being noted in the minutes of the Management Committee, my understanding was that we had very little to do with those. There was contact tracing, there was no suggestion of transmission at the hospital. In particular, the nurse that went to the Toronto General was not SARS or they didn't feel she was SARS and therefore it had very little impact on us.

It was no secret among Health Worker No. 5's colleagues that she was off sick and that she was in hospital. When some of the ICU staff learned that Health Worker No. 5's condition was deteriorating, they again raised the issue with Dr. Mederski.

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[530] North York General Hospital, SARS Task Force Steering Committee, Minutes of Meeting, May 1, 2003, 08:00 a.m., Main Boardroom – General Site.

[531] The treating physician could not recall the specifics of conversations with Dr. Mederski and, although he said it was possible he spoke to her, could not confirm her recollection of the conversation. But he said that it is possible that he told her that Health Worker No. 5 did not have SARS.

Again Dr. Mederski contacted the treating physician at Toronto General for information, but the diagnosis or classification of SARS remained unclear.

North York General seemed unaware of Health Worker No. 5's case, and no alarm was raised over the possibility that she might have SARS. Dr. Mederski reported that once the nurse became a person under investigation, her understanding was that the investigation would be done through occupational health and infection control and that she was not part of this process:

> Once this patient was now declared a possible, under investigation case, then the normal processes would advise whom, then in place, to investigate from our end. But that would be funnelled through occupational health and infection control and I wouldn't be privy to that information necessarily.

But the coordinator of occupational health was not aware of Health Worker No. 5's case and was not involved in the investigation. As she told the Commission:

Question:	The next staff member was [Health Care Work no. 5], who was admitted to Toronto General at the end of April under suspicion for SARS. Were you involved at all in her case?
Answer:	I wasn't.
Question:	Do you recall if there was an investigation into her illness?
Answer:	I don't.
Question:	Did you ever review or receive a report regarding her illness?
Answer:	No.

Infection control, which was aware of her case, reported that they could not get a diagnosis for Health Worker No. 5 but that Public Health determined she had no contacts. That appeared to be the extent of their knowledge about the case. As one memeber of the infection control team said:

Question:	There was another health care worker, who was admitted to Toronto General Hospital at the end of May. Do you remember when you became aware of that?

Answer: I know that we couldn't get a diagnosis from her. I know about her. I know that I even called the infection control practitioner down there, and they didn't know for sure, but again, that epilink, because she worked in the ICU, she didn't work with known SARS patients, that I understand. Certainly, we wondered if maybe with her cultural background, that maybe she came into contact with someone out in the community. And it wasn't until afterwards that they found that, indeed, one of the patients from 4 West went to ICU, and she looked after that patient … But as I say, it was all put together afterwards.

Question : When she was admitted to hospital, what was your understanding of what she was in hospital for?

Answer: Well, with fever and respiratory illness, I guess. And you know, they have to rule out SARS, but they couldn't we couldn't get a diagnosis from them.

Question : So was there an investigation done at that time within North York as to her possible source of illness?

Answer: Well, I guess that's when they determined that she didn't work with SARS patients, so once there would have been a link, the Public Health person that was assigned to our hospital was aware of that and she probably was involved with looking at potential [links].

No one at North York General Hospital seemed aware of the details of Health Worker No. 5's case and of the possibility of unexplained transmission, potentially through an unidentified source.

Yet during this time, Health Worker No. 5 was being treated in a SARS unit, in isolation, with precautions. While she was not classified as a suspect or probable case, she was considered a person under investigation. She remained under investigation until May 16, 2003, when she was classified as "does not meet case definition." This did not mean that she did not have SARS or could not have SARS; it meant that she did not meet the case definition for SARS. Between April 30 and May 16, 2003, Public Health was actively monitoring her case and attempting to identify her contacts and any possible exposure. As Dr. Henry told the Commission:

> And then she [Health Worker No. 5], I think, was designated as "does not meet the case definition" at some point. But in terms of the outbreak management, she was treated in isolation, she was managed as if she had the disease. We followed up on all of her contacts. She did not transmit to anyone else.

The problem was not the failure to categorize her as suspect or probable SARS or even the failure to diagnose her as SARS; it was the lack of information provided to North York General and the mistaken impression that North York General had that she had been ruled out as SARS. For public health classification purposes, she was ultimately ruled out because she did not meet the case definition. But practically speaking, that is very different from saying she did not and could not have SARS. The key feature that precluded her from meeting the case definition was the lack of epilink. But as we now know, the epilink wasn't missing; it was simply not identified at the time.

Because Health Worker No. 5 was not classified as SARS for public health purposes, this was mistakenly taken to mean that she was 100 per cent not a SARS case. There appeared to be no recognition within North York General that they may have a staff member who had contracted SARS through an unknown, unidentified exposure. Had they considered this, however remote the possibility, and had there been an extensive investigation into all of her contacts, would they have identified Patient B, the orthopedic patient from 4 West? Would that have led to an earlier detection of SARS on 4 West? It is impossible to answer these questions in retrospect.

It would be speculative to suggest that had Health Worker No. 5 been properly diagnosed, her case alone may have led investigators earlier to the simmering outbreak on 4 West. The link became obvious in retrospect, once associated with a cluster of illness on 4 West. It is impossible to know if and how the result would have been different had officials at North York General Hospital known that she was a SARS case.

What can be said, however, is that if the hospital had known there was a staff member under investigation for SARS and that, while there was no known epilink, this staff member was being managed and treated as a SARS case, it should have alerted them to the possibility of unexplained transmission within the hospital. This in turn might then have factored into their decision to relax precautions six days later, on May 7, 2003, in most areas of the hospital. It also might then have factored into the level of awareness and heightened vigilance within the hospital to look for other possible SARS cases.

This is not to ignore the real and human possibility of a misdiagnosis or misidentification of SARS. As many doctors point out, SARS was very difficult to diagnose. Its symptoms resembled many other illnesses, including common pneumonia, and there was no test to establish whether someone actually had SARS. Added to all this, it was a new disease, about which experts were learning more and more as time passed.

The problem was not one of requiring perfection. The problem was that the inability to slot a patient into a very specific case definition, defining a new disease about which everything was still not known, somewhere along the way got translated into meaning that a case could not be SARS or that there was no possibility of SARS. As will be seen later in the story of North York General, staff, including physicians who were seeing patients with respiratory symptoms in May, operated under the erroneous belief that there had been no new SARS cases since early April and that SARS was no longer around.

The case of Health Worker No. 5 yet again reveals confusion around the role of public health and the role of the hospital. That those within North York General were so uninformed about the status of one of their staff members also reveals weaknesses in the chain of protection. No hospital should be left in the dark while one of its staff is being investigated for an infectious disease that could have safety ramifications for patients and other staff, as was the case in SARS.

As noted above, after the second outbreak was announced on May 23, 2003, and a review of cases related to North York General was begun, Health Worker No. 5 was retrospectively diagnosed with SARS. Later investigation revealed that her likely source of exposure was the patient in the ICU, a patient from 4 West, the unit that later became the epicentre of the second outbreak.

As April came to an end, things yet again appeared to be returning to normal. Although five[532] health workers from North York General had contracted SARS during April, it seemed to the hospital that their illnesses were isolated events and that, on the whole, the hospital had been successful at continuing to treat patients, including SARS patients, without transmission to staff and other patients. But the question of whether there was unidentified exposure to SARS in North York General Hospital would be raised again, when three patients on the North York General psychiatric ward developed symptoms consistent with SARS.

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[532] Health Worker No. 3 is classified as a suspect case by the Ministry of Health and Long-Term Care.

The Outbreak on the Psychiatric Unit

Introduction

One of the most troublesome stories is the mystery of how three psychiatric patients at North York General Hospital contracted SARS. This is the story of three patients who in fact had SARS but were mistakenly said not to have SARS. The staff on the psychiatry unit registered concerns in April and early May that the three could have SARS. The hospital consulted outside experts and sought guidance from Public Health officials. The three patients were treated in the SARS unit[533] and their cases were managed as if they were SARS, but they were not classified as suspect or probable cases because they did not conform to the case definition at the time, because there was no known epilink or connection to another case or to a SARS-afflicted area such as China.[534] Under the rigid case definition,[535] which required an epilink, a

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[533] Two of the psychiatric patients were transferred within North York General Hospital to a medical unit for treatment when they became ill, prior to being transferred to the SARS unit.

[534] SARS Clinical Decision Guide (Ontario), April 23, 2003.

[535] To define the diagnostic category for patients suspected to have SARS, health care professionals were directed by the SARS Clinical Decision Guide (Ontario) issued by the SARS Provincial Operations Centre (POC). A patient diagnosis would be made by a hospital clinician. But the classification of a case as either suspect, probable or a person under investigation, was determined by whether the patient met the criteria for those prescribed categories. The categories as of April 23, 2003, were defined as follows:

Probable Case: Clinical Symptoms: A person meeting the suspect case definition together with severe progressive respiratory illness suggestive of atypical pneumonia or acute respiratory distress syndrome with no known cause.
Epidemiological Link/Contacts: One or more of the following:

- Close contact within 10 days or onset of symptoms with a suspect or probable case OR
- A recent visit, within 10 days of onset of symptoms to a defined setting, or encounter with a group that is associated with a cluster of SARS cases OR
- Recent travel within 10 days of onset of symptoms to a WHO reported 'affected area' outside of Canada

Suspect Case: Clinical Symptoms: Fever (over 38 degrees Celsius) AND One or more respiratory symptoms including cough, shortness of breath, difficulty breathing.
Epidemiological Link/Contacts: One or more of the following:

- Close contact within 10 days or onset of symptoms with a suspect or probpatient could qualify for a SARS diagnosis if he had travelled to China but not if he was a patient in a SARS hospital. Staff were told the patients did not have SARS. In fact, as discussed later, all three had SARS.

The SARS diagnosis and classification was understood by hospital officials to mean the patients did not have SARS. On this basis, hospital officials repeatedly told a very troubled and concerned group of staff that these patients did not have SARS or, in the short form used, were "not SARS."

But even as these assurances were being given, Public Health officials continued to monitor the three patients and their contacts. All three of the patients remained under investigation well into May, two of them remaining "persons under investigation" right up until May 23, the day the outbreak at North York General was announced to the public. Public Health classified them as "PUI," persons under investigation. For those in the psychiatric unit, the repeated denial that these patients had SARS led to feelings of disbelief and mistrust, feelings magnified when it later became clear that they were right in their fears. All three of the patients had been infected with SARS.

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able case OR	• A recent visit, within 10 days of onset of symptoms to a defined setting, or encounter with a group that is associated with a cluster of SARS cases OR • Recent travel within 10 days of onset of symptoms to a WHO reported 'affected area' outside of Canada
Persons Under Investigation	Clinical Symptoms: Fever over 38 degrees OR One or more of chills, rigors, malaise, headaches, myalgia Epidemiological Link/Contacts: One or more of the following: • Close contact within 10 days or onset of symptoms with a suspect or probable case OR • A recent visit, within 10 days of onset of symptoms to a defined setting, or encounter with a group that is associated with a cluster of SARS cases OR • Recent travel within 10 days of onset of symptoms to a WHO reported 'affected area' outside of Canada OR • Clinical Symptoms: Pneumonia clinically compatible with probable SARS • Epidemiological Link/Contacts: No known epidemiological link
Community Acquired Pneumonia Or other respiratory/flu like illness	Clinical Symptoms: Clinical picture unlikely SARS Epidemiological Link/Contacts: No epidemiological link

Two Psychiatric Patients Become Ill

In April 2003, the psychiatric unit at North York General was a busy, vital part of the hospital, with many inpatient beds and outpatient services. Staff became concerned when, in mid-April, two inpatients who had been known to have contact with each other on the unit between April 13 and April 18 developed respiratory symptoms.

The first patient in question, Patient No. 1, a 31-year-old man, was admitted to the psychiatric ward at North York General Hospital on April 1, 2003. On April 17, 2003, he had a fever and was denied a weekend pass to leave the unit for Easter. He signed himself out against medical advice the following day, Good Friday, April 18, 2003, but returned to North York General Hospital via the emergency room on April 21. He had a fever and cough, and a chest x-ray showed pneumonia. The physician who saw him in emergency recalled being concerned that it might be SARS and he expressed that concern to the internist who took over caring for Patient No. 1. Although SARS was questioned, the diagnosis was not clear, as the internist explained to the Commission:

> He had come back into the emergency room with some shortness of breath and then when it was recognized that he possibly could have picked up SARS within the hospital, was moved to a more appropriate room. And I was very impressed that his chest x-ray showed only a single lung infiltrate, but even when I went, and with that poor knowledge, specifically tried to see if there were any clinical findings that went with it, I couldn't find any. So his only point of contact as far as I could tell had been the clustering in the hospital recently.

Patient No. 1 was admitted to 3 North, a medical ward, under respiratory isolation, and started on antibiotics. In the early afternoon on April 28, 2003, he was transferred to the SARS unit, where he remained until his case was closed by Public Health on May 16, 2003.

By April 29, 2003, Patient No. 2 was also being treated on the SARS unit. She was admitted to the North York psychiatric ward on April 13, 2003. She went home for five hours on April 17, 2003. Her family recalled to the Commission that she was not feeling well while at home. She returned to the psychiatric unit on 7 West that evening. The following day she had a fever and a chest x-ray showed lower left lobe pneumonia. Dr. Mederski, who became involved in her case on April 18, recalled that although she questioned the cause of Patient No. 2's illness, the diagnosis was not clear at the outset:

> I was questioning a respiratory infection that wasn't getting better after two days in a person who otherwise was well, but I wasn't establishing in my mind necessarily that it was SARS.

Patient No. 2 remained febrile on the psychiatric unit until April 23, when she was moved to 3 North and placed on respiratory isolation. The following day she was transferred to the North York General SARS unit but was returned to a second medical ward, 5 West, later that same day, in respiratory isolation.

Public Health Becomes Involved

Although a SARS diagnosis was not initially clear for either of these patients, from the outset physicians involved in their care questioned whether it was a possibility. Dr. Barbara Mederski, an infectious disease specialist at North York General Hospital, told the Commission that she was very concerned about these two cases and that by around April 21, 2003, she was marking them on her SARS working list:

> As I recall I was very concerned about this whole development. I had no evidence that this was SARS, but it was coincidence that there were these two patients with similar trajectory of events in terms of where they have been and how they got sick and the timing. Because the one of them was deteriorating, I felt that it was something that needed to be considered as serious. My note to myself, which is the only way I can really see what I felt at the time, is that, officially I had label of PUI, person under investigation, as I was directed to have, but I put down P, which meant, in my mind, probable. As I said, I had my own notation that was just for me.

Dr. Mederski said that as early as April 23 she contacted Public Health and expressed concerns about these cases, and that they contacted the Provincial Operations Centre.

A report by Toronto Public Health says that North York General infection control reported these cases to Toronto Public Health on April 27, 2003. Because SARS was a reportable and communicable disease, the hospital was required under the *Health Protection and Promotion Act* to report patients who may have SARS to public health authorities.[536]

Dr. Mederski said that she went away between April 23 and April 28 but that while she was away she continued to worry about these patients and whether they could have SARS:

> I then disappeared to Jamaica, where I am venting left, right and centre about these cases to objective physicians, saying, am I being completely ludicrous here, asking for input from objective bystanders? Coming back to Toronto to find that now I have, on the 28th, both patients are now on the SARS unit and saying, okay, I have this teleconference, I am now going to talk about this. Because I came back somewhat rejuvenated.

When she returned to work on April 28, both patients were being cared for on the SARS unit. She told the Commission that at that time she again discussed the cases with Public Health. Dr. Mederski said that it was not unusual for her to consult with Public Health about cases that could be SARS, but the diagnosis was unclear. When she discussed the case with Public Health and outside experts on April 28, it was decided that there would be an on-site visit to review the cases:

> My usual protocol would be to call [Dr.] Bonnie Henry and [Dr.] Don Low and anybody else I could get a hold of. In this case [the two psychiatry patients], I called Bonnie Henry and I gave her the cases of the psych cases. I described what was happening. I told her that it was a much more complicated story this time because there was no evidence of epilink, but there was a link between two patients coming down with respiratory symptoms, suspiciously, one a well patient medically and another one not too bad either. Both of them were reasonably healthy people actually, so there was no good reason for them to become suddenly sick. And nobody in their families was ill so this wasn't easy to understand, why just they would be ill. But no epilink, to the normal epilink, as defined at that point. And so I ran that by Bonnie and she then proceeded to run it by Don and that's when we eventually got the

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[536] Section 27(1) provides:

> The administrator of a hospital shall report to the medical officer of health of the health unit in which the hospital is located if an entry in the records of the hospital in respect of a patient in or an out-patient of the hospital states that the patient or out-patient has or may have a reportable disease or is or may be infected with an agent of a communicable disease. R.S.O. 1990, c. H.7, s. 27 (1).

> coming to our site of Don Low, [Dr.] Tony Mazzulli and Bonnie Henry, to actually review this on site.

That evening, April 28, Dr. Bonnie Henry of Toronto Public Health, Dr. Don Low and Dr. Tony Mazzulli, both physicians from Mount Sinai Hospital, went to North York General Hospital. One of the adjudication doctors recalled being asked to go to the hospital to consult on these cases:

> … I got called by [Dr.] Bonnie Henry. Bonnie used to phone me up quite a bit about trying to adjudicate cases, could this be SARS, and one thing I have learned from this whole outbreak is it is impossible clinically to tell whether, and this makes sense in hindsight, but it is impossible clinically to determine whether somebody has SARS or not. You might as well flip a coin. And to think that somebody who has had clinical experience with these patients is any better at it than the next person is madness … There was concern at North York about three patients. One was a nurse that had looked after patients and was now sick, had looked after SARS patients, and two psychiatric patients that now had developed pneumonia. So Bonnie asked if I would go out to North York Hospital with her to look at these cases to try to decide whether or not they were SARS. I felt that I was going to be biased because I had made such a big noise about the fact it was going away …

This doctor told the Commission that they reviewed the case of the two psychiatric patients and the case of an ill health worker, Health Worker No. 4, the SARS nurse whose story is told earlier in this report. At that time it was felt that these patients did not have SARS but that the health worker (Health Worker No. 4) did. As one of the adjudication doctors told the Commission:

> … that night we sat out there and went through these cases. The nurse, it was clear that she had, there is no question she had SARS, and she had been admitted to the ICU. She was a ward nurse that had worked on the SARS unit and become sick. The two psychiatric patients were interesting …[537] The reason that they were kind of interesting, they spent a lot of time together on the psych ward and the psych ward is a

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[537] A short portion of the quotation, which referenced the patients' mental health diagnosis, has been edited out to ensure the privacy of these two patients.

> real lockdown unit, you don't wander around the hospital if you are on the psych ward. In any event, these two people had spent time together. They both had been discharged before the Easter weekend. One was Jewish and had gone out for six hours and come back, and the other was a Christian who had gone home for Easter weekend but came back on the 21st. In any event, the week of the 21st, they both developed pneumonia and the question was, could these patients have SARS? They both came back with pneumonia and we talked about them and at the end of it all felt that we couldn't rule out that they didn't have SARS and that we didn't feel – there was no epilink, there was no way to explain either airflow or something, and so at the end of the day we treated them as if they had SARS. Subsequently there was another psych patient that developed pneumonia, that we never saw, but we heard about later, but in any event we reviewed the cases and made the decision that the nurse has SARS; the two psych patients don't so they wouldn't be included in the registry, but we would treat them as SARS, and put them in isolation.

This doctor said that although they were not classified as SARS cases, they were handled with respiratory precautions for the duration of their hospitalization.

> Question: So they wouldn't be included in what registry?
>
> Answer: Wouldn't go into the count as a SARS case in Toronto with the Ministry and Toronto Public Health.
>
> Question: But you treated with SARS precautions?
>
> Answer: Yes.
>
> Question: In an ICU [intensive care unit]?
>
> Answer: One of them ended up going to ICU for a short period of time, and so they were treated with respiratory precautions the whole time that they were sick.

A summary of the visit and findings prepared by Dr. Henry and later forwarded to North York General Hospital, described their role as "to review the charts" and "to assist the hospital in making decisions about the need to restrict staff or quarantine staff or patients."[538] After both cases were reviewed, the two psychiatric patients were classified by Public Health as "persons under investigation, category 2."[539] According to the case definitions at that time, this meant that they had pneumonia clinically compatible with probable SARS but no known epidemiological link.[540]

Hospital officials, including Dr. Mederski, understood the position of the adjudicators to be that they did not feel these were SARS cases. In a followup email to the Provincial Operations Centre, Dr. Mederski wrote:

> Please note that neither of the clinical cases in question has been defined as SARS – in fact the term specifically used is PUI – Category 2. Furthermore, both Drs. Low and Henry favoured NOT calling these pts [patients] SARS based on their clinical presentation.[541]

Although Public Health may not have favoured calling these patients SARS, they had not ruled out SARS. As Dr. Bonnie Henry told the Commission:

> So we had this discussion and the bottom line from that discussion was that these very possibly could be SARS and we needed to manage them as if they were. So again, from my point of view, the whole issue was, was anybody else sick? Is anybody else incubating this disease and how to make sure that they don't transmit to anybody else. So by the time that we heard about these patients, they had actually been ill for a period of time and actually I think Patient No. 1 was well on the road to recovery and hadn't got all that sick. [Patient No. 2] was the other person as I recall and she got quite ill for a while. I know they had been transferred between wards and there were issues around locking the doors and a lot of angst. So we had decided with the hospital again, they would look after their staff that were either on work quarantine or needed to be monitored at work. They would look after the inpatients. We would get a list of all the patients who had been in the psych ward at any period of time or the other wards that they were on … and Toronto Public Health would follow up with all the outpatients. We would do all the contact

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[538] Summary of North York General Hospital investigation, April 28, 2003 prepared by Dr. Bonnie Henry.

[539] Toronto Public Health Records and Summary of North York General Hospital investigation, April 28, 2003, prepared by Dr. Bonnie Henry.

[540] SARS Clinical Decision Guide, April 23, 2003.

[541] Dr. Barbara Mederski, email to Allison Stuart, Provincial Operations Centre, April 29, 2003.

> tracing in the community, so the families of the patients. We also did a really concerted effort to see if anybody had been on that ward who had worked on the SARS ward, if they had cross-covered, if there was any of the family physicians, we went through a whole list of anybody who had been on the psych ward who might have passed it on. The way the three of them got sick within a very short period of time, it seemed to us from the epidemiologic connections that there was a point exposure.
>
> They were all probably exposed around the same time by somebody or something, so we tried to put a lot of effort and one of the things that we were looking at was most of the smoking areas in the hospital were shut down because SARS precautions were used everywhere. But the psych ward still had a smoking area. So was there somebody who worked somewhere else who went up to the smoking area? We could not find anything. They were treated in isolation. They were managed as if they had SARS because we had this concern.
>
> The clinicians were equivocal, [Dr.] Barb Mederski wasn't sure, [Dr.] Don [Low] thought they absolutely didn't have it, [Dr.] Tony Mazzulli said he thought they might. The answer was, if there is any doubt, we need to treat them as if they have the disease. So that's how we managed it and that's how we agreed to manage. There was no transmission from those patients. We followed up with everybody and couldn't find any other cases. We also followed up to see if there is, one of the thing about SARS was it was a diagnosis of exclusion, if there was sort of no reason for them to have it. So we did a bunch of testing for a variety of things including microplasma, legionella. The hospital had construction going on in one area, so that was a possibility. And I know Patient No. 1, and I think perhaps one of the, the third person tested positive for microplasma, so that was a compounding factor. It was a really very tricky trying to figure out what was going on. It was worrisome and we didn't have a good handle on how they could have got infected.

As described by Dr. Henry, after the adjudication and classification of the patients as persons under investigation, category 2, Public Health developed a plan of response, to ensure that the patients were monitored and that all possible contacts were identified and investigated:

> Staff who had close contact without a mask with Patient 1 [referred to as Patient No. 2 in this report] between April 18 to 20 are sent home on

> quarantine until May 1. Those who worked shifts on the ward from April 18 to 20 but who did not have close unprotected contact are to remain at work. They are to monitor themselves closely for symptoms and are placed on quarantine when at home. All other staff on the psychiatric ward are placed on active surveillance by occupational health (daily phone call and symptom check for those days staff were not at work) until May 1.
>
> Patients on 7N who were on the ward between April 18 and 20 are to be monitored twice daily for fever and symptoms. Any patients who were on the ward between April 18 and 20 and who have been discharged must report to TPH. They are placed in quarantine at home until 10 days from their last contact on the ward.
>
> NYGH and TPH assess all patients, visitors, physicians and staff who were on the Psychiatric ward between April 7 and April 17/18 to determine if anyone is unwell, to assess if anyone has an epidemiological link to a SARS case and to assess if anyone may have passed another illness on to the two psychiatric patients. No source of infection is found.[542]

Dr. Mederski told the Commission that the Public Health plan was in response to the concerns of the hospital, including herself, about these patients:

> … the fact that they were being treated as if they had SARS, because the formal setup is that they're being investigated to the extent where the staff are being put into quarantine, so the contact of contacts are now being treated with concern. So if you were a worker on 7 West you would be put into quarantine. There was a lot of discussion as to how far to go with this, and if I am correct in recalling, this was not following the routine type of approach, because if you really felt they were not SARS you would not be bothering to put people into quarantine. There would be no point, if you're following the way it was laid out up to that point by the ministry, what to do. So, this is, I believe, more in response to our own, meaning the hospital's, concern that had been voiced over and again and the staff concerns that we're not willing to say that these aren't cases. We are worried enough that we are going to do something about it, a

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[542] Summary of North York General Hospital investigation, April 28, 2003 prepared by Dr. Bonnie Henry.

> little more than perhaps was expected at that stage, and so you have this meeting of halfway, that you are going to take precautions that you would normally do with people with SARS.

Dr. Keith Rose, the Vice-President responsible for the infection prevention control program at North York General Hospital, told the Commission that the illness among the psychiatric patients was of great concern to senior management and those handling the SARS response:

> There was some discussion over the weekend. On the evening of Monday, April 28th, [Dr.] Don Low and [Dr.] Bonnie Henry and an infectious disease guy by the name of [Dr.] Tony Mazzulli, I think he was from Mount Sinai, I hadn't met him before, came to review x-rays and the history of two psychiatry patients. We had the entire psychiatry staff come in, not the entire, but the leaders and the managers in the psychiatry area, come in, because I remember calling them in. And it had to have been 10 or 11 at night by the time we left that meeting, it was quite late, in terms of assessing what those patients actually looked like and what precautions should we take.
>
> At that point there was a decision made that we should move 7 North and 7 West to a Level 2[543] and treat it as if there was potential transmission. Interesting, those patients, at the time of their diagnosis, were on medical floors. Their exposure to 7 North or 7 West had been some time back around the middle of April and they were there for a very short period of time. The manager of 7 West and 7 North was there. People knew what they needed to do in terms of advising the staff of why this had happened and what had gone on. At that point we were still in full precaution for all our patients, so in terms of our management it actually made little difference to the 7 North and 7 West. There was still a protocol, with direct care to treat patients with gowns and masks, there was still screening and all the other things that were going on that were relevant to SARS.

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543. On April 30, 2003, the psychiatric unit (7 West) and 7 North were moved to a Level 2 status. The rest of the hospital remained at Level 1 status. The later confusion about the hospital's SARS status level is discussed below.

> What Level 2 did, at that point was, the Chief of Surgery actually cancelled surgery – it was that date he cancelled surgery. Yes, because my log date was kept on Wednesday, April the 30th, because we were just starting to ramp up on new activity. And the concern was lack of information. Nobody knew the extent of how seriously ill they were. Whether, if this really was potential transmission, then would we go to a higher level? People were concerned that we would unknowingly bring patients into the hospital and therefore potentially create a home quarantine situation for them and that would not be acceptable. Therefore, the Chief of Surgery actually cancelled some clinics and cancelled surgery … he did that late in the day on the 29th, because at that point they were doing the contact tracing and trying to understand where the patients had come from.

Meanwhile, Patient No. 2 remained unwell and she was transferred back to the SARS unit on April 28. Her condition continued to deteriorate. On April 30, the patient was moved to the intensive care unit. The doctor caring for Patient No. 2 spoke to her husband and told him that she would be intubated later that day. Intubation was an advanced life support step which involved inserting a tube into the trachea to provide an open airway to assist the patient in breathing.[544] The gravity of her condition was explained to her husband, prior to the procedure:

> Dr. Mederski called me at noon, told me my wife was in serious condition, deteriorating. She told me that a team of doctors, including Dr. Low, had examined her x-rays the night before and that her lungs were showing a worsening pneumonia and that is how the intubation decision had been made. Dr. Mederski explained intubation to me and told me as well they were going to put a feeding tube into her stomach and that they were going to operate soon. This was Wednesday at noon. She told me intubation meant putting a tube down her throat into her lungs. It was not a good day for me.

Later that day, Patient No. 2's husband spoke to the physician who performed the surgery and was told that they were unable to feed the intubation tube down his wife's lungs and a result they had to do a tracheostomy. A tracheostomy is an emergency procedure to surgically open the trachea to provide and secure an open airway.[545] Patient No. 2's husband recalled that the physician told him that it was not certain that his wife would survive and that only time would tell. He told the Commission that at that time he also asked the physician whether his wife had SARS, and he was told yes, she did.

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[544] *Taber's Cyclopedic Medical Dictionary*, F.A. David Company, 2001.

[545] *Taber's Cyclopedic Medical Dictionary*, F.A. David Company, 2001.

Probable SARS to PUI

On April 29, at 9:30 a.m., the hospital reported to staff that two patients on 7 West, the psychiatric unit at North York General Hospital, had been diagnosed with probable SARS:

> This morning, we have news to share with you regarding a few new developments that occurred late last night. Two people who were patients on 7 West have been diagnosed with probable SARS. Public Health and Infection Control are interviewing all staff and other patients who had contact with these patients. All at risk patients and staff who had unprotected contact with these patients on 7 W from April 18 to April 21 will be identified and carefully monitored.[546]

Later that same day, at 4:24 p.m., the hospital revised this statement, providing the following information:

> We would like to share some new information with you about the two people who were patients on 7 West. We would like to update this morning's statement with the fact that those patients are classified by Toronto Public Health as people under investigation, and not probable SARS cases.
>
> Both patients were immediately put on respiratory precautions once they exhibited symptoms. To alleviate some rumours, we would like to clarify that the patients remained on their unit and did not walk around the Hospital. All staff in contact with these patients followed all the appropriate precautions, and were wearing protective gear. One patient's incubation period is now complete and the second patient's incubation period will be complete on Thursday, May 1.

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[546] NYGH, SARS Update #28.

> Public Health and Infection Control are continuing the investigation to determine the source of their infection.[547]

For some, this quick change was difficult to understand. How did the cases move from probable SARS back to being persons under investigation in the same day? Was the initial report correct and the second report an attempt to hide or minimize concerns?

In fact the classification of the patients did not change. At no point were the psychiatric patients classified by Public Health as suspect or probable SARS, until after May 23, when the second outbreak was announced. The psychiatric patients remained persons under investigations from the time of their being reported to Public Health until after May 23. Dr. Rose explained that the initial update to staff on April 29 was not meant to report a formal classification. The formal classification of these patients was not reported from Public Health until that day, at which time the update was amended to reflect the classification by Public Health as "persons under investigation." He said:

> Two patients admitted to the SARS unit, I don't think at that point, that we had our PR people honed to call people, "suspect SARS, probable SARS, patients under investigation, category 1, category 2 under investigation." I don't think we had them defining that in our messaging. And so, I would've read this as, "you were admitted to the SARS unit, possible SARS," and later in the day, recognizing that there was an official classification, that classification was officially "people under investigation" and that misconception was corrected.

But concerns that cases were being hidden was fuelled by the fact that the World Health Organization travel advisory[548] was a big issue in Toronto. Municipal and provincial officials were heading to the WHO's Geneva headquarters to argue against the advisory. Dr. Keith Rose was asked whether the travel advisory, or any other outside influences, weighed on the decisions of the hospital in respect of these or other cases:

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[547] North York General Hospital, SARS Update #29.

[548] The World Health Organization issued a travel advisory against Toronto on April 23, 2003. The advisory was rescinded effective April 30, 2003. For more on the travel advisory, see "WHO Travel Advisory" in this report.

> On my radar screen I don't have any time frame when there was travel advisories, when they travelled to Geneva, it doesn't even register on me, those dates. So, at the hospital we were not focused on what was going on externally in terms of travel advisories. That was not impacting our decision making at the hospital level in any way.

The Commission accepts that the change in status from probable to under investigation was not the result of an attempt to minimize or hide cases. There is no evidence that there was anything sinister, suspicious or improper in the changes in the communications described above. The reasons are fully and plausibly explained. The actual categorization of the patients did not change.

But the change in classification reveals the importance of clarity of communication. The hospital, in a sincere attempt to update the staff as soon as possible, released the first update before it had the benefit of the decision of the adjudicators, who classified the case as "person under investigation." Unfortunately, the reasons for the change from probable to persons under investigation were not clear to staff at the time. The communication left some wondering if these patients were believed to be SARS but were not being reported as SARS.

The miscommunication problem was not deliberate but rather the product of a system unprepared for a new disease like SARS, unprepared for any major infectious disease outbreak, a system without plans or protocols for effective communication. This problem is at the root of much of the difficulty that arose during SARS.

Hospital Remains Level 1

Now that these patients were considered "persons under investigation," the question arose as to whether the hospital should retain its Level 1 status or be elevated to Level 2. As noted above, Level 1 meant that a hospital had no unprotected SARS exposure to staff and/or patients but that it had one or more cases of SARS (suspect or probable). Level 2 meant there was unprotected SARS exposure within the last 10 days but without transmission to staff or patients. The designation of a hospital as Level 1 or 2 had implications for visitors, admissions, patient transfers and admissions from long-term care facilities, and clinical activity.[549]

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[549] "Description of activity for acute care facilities," April 14, 2003 (summarized in above text).

Following the April 28 adjudication, Dr. Bonnie Henry prepared a written summary of the investigation. She wrote:

> The hospital remains Level 1 with the psychiatric ward considered a Level 2 area.

The hospital provided this information to staff the following morning, April 29, in an update. They reported to staff that the hospital would remain at a Level 1 status and that only 7 West and 7 North would move to Level 2 status. That same day, the chief of psychiatry corresponded with other psychiatry chiefs at other area hospitals, to report that North York General had two psychiatric patients currently under investigation for SARS and that the psychiatric unit was closed.[550]

MEMORANDUM

To: Chiefs of Psychiatry at
Sunnybrook & Womens College Health Science Centre, Scarborough General Hospital, Trillium Health Centre, Toronto East General Hospital, York Finch Hospital, Humber River Regional Hospital, York Central Hospital, Markham Stouffville Hospital, The Toronto Hospital, Mount Sinai Hospital

From: Dr. Brian Hoffman, Chief of Psychiatry
North York General Hospital

Re: Closure of Psychiatric Inpatient Ward at North York General Hospital Until (at least) Saturday May 3rd, 2003.

Date: 29 April 2003

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[550] Dr. Brian Hoffman, Chief of Psychiatry, memorandum to all psychiatrists and physicians, Re: Closure of Psychiatric Inpatient Unit, April 29, 2003; Dr. Brian Hoffman, Chief of Psychiatry, North York General Hospital, memorandum to: chiefs of psychiatry at Sunnybrook and Women's College Health Science Centre, Scarborough General Hospital, Trillium Health Centre, Toronto East General Hospital, York Finch Hospital, Humber River Regional Hospital, York Central Hospital, Markham Stouffville Hospital, The Toronto Hospital, and Mount Sinai Hospital, Re: Closure of Psychiatric Inpatient Ward at North York General Hospital until (at least) Saturday, May 3rd, 2003.

> Dear Colleagues:
>
> You may have heard that North York General Hospital has had two … patients admitted to the psychiatric inpatient unit who developed respiratory symptoms. Both patients are now under investigation for SARS.
>
> Accordingly, we are closing the ward to admissions until at least Saturday May 3rd, 2003 (assuming there are no new cases).
>
> We would appreciate your help if any patients in our emergency room require admission. Please let your intake staff and on-call psychiatrists know of these developments.
>
> Thank you kindly.

As an aside, this communication from the chief of psychiatry was an example of effective communication between hospitals. This communication from the chief of psychiatry to other hospitals was important, not only because it put other hospitals on notice that they might now get psychiatric patients who would normally be at North York General, but also because, as a result of this notification, other chiefs of psychiatry would have been on alert if a psychiatric patient with respiratory illness who had previously been at North York General Hospital came into their hospital. As will be seen throughout the story of SARS, hospitals can best protect themselves from a potential source of infection or a potential problem if they are informed about what is happening in the community and in other health care institutions. More will be said about the importance of communication between hospitals later in the report.

The designation level of the hospital was unclear. The Provincial Operations Centre felt that the entire hospital should go to Level 2. On April 29, Dr. Mederski sent an email to Allison Stewart at the Provincial Operations Centre, asking them to "reassess" the situation at North York General in light of the adjudication of the cases. In support of the hospital's position that it should remain a Level 1 facility, Dr. Mederski reported the following information to the Provincial Operations Centre:

> In reference to the very recently received document from POC identifying North York General Hospital as a Level 2 facility and with this attachment I wish to appraise you urgently of the final opinion of the POC Adjudication Team consisting of Drs. Don Low, Tony Mazzulli and Bonnie Henry after their on-site visit at our (NYGH) request yesterday evening April 28, 2003.

1) Please note that neither of the two clinical cases in question has been defined as SARS – in fact the term specifically used is PUI Category 2. Furthermore both Drs. Low and Henry favored NOT calling these pts SARS based on their clinical presentation.

2) there has been no epi link/risk identified for the "respiratory" cases thus far

3) The 7 W Psychiatry unit was in Full Precaution mode since the beginning of the epidemic

4) The patient in question was in full isolation in a locked total isolation unit with no breach of precautions from 12:30 hrs (afternoon) on April 20th and in Full isolation similarly but in another unit with a shared bathroom (but NO sharing patients) since April 19th 22:30 hrs. Yet in good faith we elected to "round off" the "quarantine range" to April 21st thereby identifying our 10 period as finishing on May 1st rather than April 29th ie. today. During initial discussions with the Adjudicators it had not been clear what precautions the psych unit employed. Later it was firmly clarified that indeed other than occasional patients wandering out of rooms not always fully masked there were absolutely no breaches in precautions from staff.

5) We EXPLICITLY REQUESTED this adjudication in order to establish our hospital's status and were firmly reassured that – as in the case of many other institutions before us, only the psychiatry unit involved would be involved in any quarantine step as this did not affect any other area of the hospital

6) It is to be noted that there have been no instances in staff nor patients of illness during this quarantine period.

7) Finally, it has been suggested by the Adjudcators that the contact for these pts may well have been any patient on the psych unit – now discharged – who could have passed any resp'y infection on to our two patients. As an aside, these two patients are behaving "clinically" quite differently from each other and one of them is clearly improving at this time.

We trust your sound and prompt re-assessment of our situation in light

> of the recommendations of the Adjudication group.
>
> Thank you.[551]

The April 30 minutes of the SARS Management Committee reported that the "POC's suggestion that the whole hospital be Level 2 was being debated."[552] But later that day, the Provincial Operations Centre clarified the SARS status for North York General, allowing the hospital to remain at Level 1 and only 7 West and 7 North move to Level 2.[553]

The change of status was confusing, and on April 30, at 9:15 a.m., the hospital sent the following update to staff in an attempt to clarify things:

> Yesterday there was considerable confusion relating to the change in status for NYGH. This email is to notify you that the current SARS status for NYGH is Level 1. However, 7 North and 7 West (psychiatric units) will remain at a Level II category until May 1, 2003 due to a possible exposure which occurred April 18 to April 21.[554]

The classification of a unit within the hospital was unsettling to some, as it seemed illogical that a floor within the hospital could have a distinct classification, as if it were a self-contained unit without the possibility of access or exposure to the rest of the facility. As one nurse told the Commission:

> What I found odd is that the hospital made it [the 7th floor] Level 1 but we didn't realize that you could have a unit within the hospital that was a Level 2.

Particularly frightening was the knowledge that if these patients were SARS, no one could say where they got it. One physician experienced in the care of SARS patients explained that although the symptoms were consistent with SARS, they could not figure out how the patients were exposed:

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[551] Dr. Barbara Mederski, email to Allison Stewart, Ministry of Health and Long-Term Care, April 29, 2003, 5:48 p.m.

[552] North York General Hospital, SARS Management Committee Minutes of Meeting, April 30, 2003, 0800 Hours, Main Boardroom – General Site.

[553] Dr. Keith Rose, email to Allison Stuart, Ministry of Health and Long-Term Care, April 30, 2003, 13:29.

[554] NYGH, SARS Update #30.

> I remember multiple times discussing the issues of the psych patients that had syndromes that we thought were consistent with SARS, and not being able to identify how these people could possibly have been connected and infected with it, and going back and forth about that.

As noted below, the psychiatric patients were not always compliant with precautions, they were not easy to isolate and there was some concern about the ability to track their movements since the tracking relied on self-reporting.

Some within the hospital wondered why they weren't classified as a Level 3 facility. As one physician said:

> If he [Patient No. 1] was SARS, we should have gone to Level 3 right then. It was hospital transmission.

Part of the confusion was the uncertainty over what the category definitions meant. Level 3 meant there was unprotected SARS exposure with transmission to health workers and/or patients. The health facility may or may not currently have one or more cases of SARS (suspect or probable).[555] Did the unprotected SARS exposure mean that, having identified a new SARS case, the question was whether any other patients or staff had had unprotected exposure to that patient? Or did the unprotected SARS exposure include a new patient who may have contracted SARS from an unidentified source? Was unexplained transmission in a hospital enough to move to a Level 3 category?

Dr. Mederski explained her understanding of the categorization as meaning secondary transmission while unprotected:

> This was in line with what were the directives at the time, that if there was a categorization of possible breach of precautions with secondary spread to a staff or patient, that would render that area a Level 2 area. That was following along the categorization that we were already experiencing right from the beginning of the outbreak, with our first emergency patient that [name of doctor] had seen. And the Grace Hospital was the precedent for the whole Level 3 and the closure of the hospital. So essentially this acknowledged the fact that there may have been

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[555] "Description of activity for acute care facilities by SARS categories," April 14, 2003.

> transmission of SARS to a patient in breach of precautions. That's what that means.
>
> Because we were trying to fathom whether this was truly only at the level of the psych unit, given that by this point, there had been no apparent transmission elsewhere within the hospital to any other patient, and therefore are we comfortable in closing only the psych unit. And that would have been done with the direction from Public Health. That wasn't the hospital's decision. And I know that there was a lot of thought put into that because clearly if there was this notion of patients wandering up and down, then one would argue that it could be a breach of precautions throughout the entire hospital. But I think that was where this whole discussion came around well, did these patients really leave the unit, did they really wander?

The categorization of the hospital had no impact on how these patients were managed. However, a change in category had significant consequences for the management of the hospital. For instance, a move to Level 3 would have closed the hospital to admissions and closed the emergency room and clinics. There would have been no new clinical activity permitted. All staff other than essential staff would have been placed on home quarantine, with essential staff on working quarantine.[556]

A move to a Level 2 facility would have permitted emergency and urgent case admissions only. Non-essential staff would have been permitted to work but staff would have been on working quarantine and not allowed to work in another hospital. By remaining at Level 1, the hospital was permitted to continue a gradual return to normal. There were no restrictions on admissions and clinical activity, except that guidelines with respect to transfers and discharges had to be followed.

One of the most significant aspects of changing a hospital's status was the impact it had on personal protective equipment. A Level 3 facility required the use of full droplet and contact precautions for all direct patient contact and the use of an N95 respirator or equivalent for all staff in the facility. A Level 2 facility required the use of full droplet and contact precautions for direct patient contact in all area(s) affected by the unprotected exposure. A Level 1 facility required the use of full droplet and contact precautions in any area with a patient who failed the SARS screening test or had respiratory symptoms suggestive of an infection, and for taking care of suspect or probable SARS cases.[557]

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[556] "Description of activity for acute care facilities by SARS categories," April 14, 2003.

However, a change in level at North York General would not have impacted the use of personal protective equipment (PPE) in late April and early May 2003, as the hospital was requiring all staff to wear personal protective equipment. In effect, they were adhering to the protective equipment precautions required of staff in a Level 3 facility.[558] But, as Dr. Rose pointed out, an important consequence of changing the level of the unit, in addition to no new patients, was the increased awareness:

> No new patients. Full precautions were already in place, so the PPE didn't change, and increased awareness to the staff. One of the reasons that you do it is because you want that ten day period, if any staff becomes ill that could've been exposed during the 18th or 19th or 20th of April, when they figured the potential exposure might have occurred, is there any staff or any other patients might have come down with an illness. It was a heightened awareness.

There is no evidence of any hidden or improper motive with respect to the categorization of the hospital. The hospital had been told following the adjudication that these patients were not likely SARS. It had been approved by the Provincial Operations Centre to remain a Level 1 facility, with the exception of 7 West and 7 North. Hospital officials believed there had been no unprotected exposure to staff, and the absence of any staff illness supported this belief.

The problem with the categorization of hospitals was that it depended on the identification of SARS cases. The psychiatric patients were not identified as either suspect or probable patients. And the categorization did not explicitly address the situation of the psychiatric patients: a cluster of ill patients, under investigation for SARS, who, if they were SARS, had an unidentified source of exposure.

By remaining at Level 1, the hospital was permitted to return to normal, including admissions and clinical activity. It also sent the message that the hospital was safe. The classification of the hospital as Level 1 suggested that any transmission was an isolated, contained event. Making the psychiatric unit Level 2 sent the message that any transmission was confined to the psychiatric unit and that the rest of the hospital was safe. But if the psychiatric patients had SARS, where had they gotten? No one knew.

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[557] And use of full droplet and contact precautions in any area with a patient who fails the SARS screening test or has respiratory symptoms suggestive of an infection, and for taking care of suspect or probable SARS cases. This is the required level of precautions in a Level 1 facility.

[558] However, no one had been fit tested on the use of N95 respirators and many staff reported that they had no training on how to apply and remove the protective equipment, how to get a proper seal or how to properly use the N95 respirator.

And with a change in status came a heightened awareness. But by limiting the change to the psychiatric unit only, the heightened awareness was not emphasized throughout the hospital. As May progressed, many health workers, including many physicians, believed that SARS was over and that there had been no new cases. The belief that SARS was over lowered the general index of suspicion. In the result, a respiratory illness was no longer viewed by everyone with the same level of suspicion as was the case in March and April.

The impact of the mistaken diagnosis is impossible to calculate. But we do know from many witnesses that a lower index of suspicion leads to less vigilance in protective measures, just as a heightened index of suspicion increases vigilance. One part-time doctor explained how decisions about patients were impacted by the information on what was happening in the hospital, in particular about whether there were new SARS cases or exposure in the hospital:

> Had I been one of the doctors who worked there every day and been awfully suspicious, and I know who those doctors are, who already had their antennae up, they're the ones who had not relaxed their precautions. I might have went, "hmm, I wonder." I might have done a little more investigation, more consulting.

It is safe to conclude that had the psychiatric patients been correctly diagnosed as SARS cases, the level of vigilance and protective measures would have been higher. Whether this heightened vigilance would have prevented the second outbreak is impossible to tell.

The confusion over the designation of the hospital also contributed to the worry that cases were being dismissed or ignored. By the end of April, there had been unexplained staff illness, confusion about the classification of the psychiatric patients (changed from probable SARS to not SARS but classified by Public Health as persons under investigation) and confusion over the designation of the hospital. None of this created a sense of trust and confidence in how cases were being handled.

Was SARS Contained?

As April ended, the psychiatric patients remained on the SARS unit and remained classified by Public Health as persons under investigation. Working with hospital infection control staff, Public Health identified and monitored contacts of these patients to determine whether there had been any unprotected exposure, and through the hospital, they closely monitored the health of these two patients.

By April 29, rumours swirled in the hospital about whether there was a new outbreak of SARS among the psychiatric patients. The psychiatric unit was closed to admissions.[559] Of particular concern to staff was the question of whether patients had broken isolation and wandered off their unit, possibly exposing others while ill.

The hospital tried to respond to these rumours and to alleviate fears by telling staff:

> Both patients were immediately put on respiratory precautions once they exhibited symptoms. To alleviate some rumours, we would like to clarify that the patients remained on their unit and did not walk around the Hospital. All staff in contact with these patients followed all the appropriate precautions, and were wearing protective gear.[560]

But in doing so, they expressed a measure of control and certainty that on review was not so clear. If the hospital could not say how the psychiatric patients got ill, how could they say that the exposure was limited to 7 West? How could anyone be certain that these patients did not move outside their unit and that they had no unprotected contact with staff or others? From the various interviews and documents provided to the Commission, it appeared well known that these patients were difficult to isolate and that the patients were not always compliant with precautions.

One of the physicians who first saw Patient No. 1 in the emergency department recalled that he was not isolated immediately when he entered the emergency department and that Patient No. 1 did not always keep his mask on:

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[557] Dr. Brian Hoffman, Chief of Psychiatry, Department of Psychiatry, memorandum to all psychiatrists and physicians, Re: Closure of Psychiatric Inpatient Unit, April 29, 2003.

[560] Dr. Brian Hoffman, Chief of Psychiatry, memorandum to all psychiatrists and physicians department of psychiatry, Re: Closure of Psychiatric Inpatient Unit, April 29, 2003.

> Both patients first became febrile while on the psychiatric unit and both spent time on medical units. Although staff did a remarkable job keeping them isolated and protecting themselves and other patients, their illness made them difficult to manage.

Although the psychiatric unit was a locked unit, it was not impossible for a patient to leave the unit. As one 7 West physician told the Commission:

> Occasionally people manage to get out of the unit even when it's locked. They just sneak out. We try to avoid that as much as possible.

The April 29 memorandum to other chiefs of psychiatry from the chief of psychiatry at North York General reported that the two psychiatric patients "would not comply with respiratory precautions."[561]

A physician from 7 West remarked that they were very lucky that they did not have further spread, given the problems of isolating Patient No. 1 and Patient No. 2. He described both of them as being "totally noncompliant with protection."

Dr. Mederski recalled how difficult it was to isolate Patient No. 1 while he was on a medical ward and that there were concerns that he might have wandered off the unit:

> Patient No. 1 was found wandering all over the place, when he was on the medical ward. Some people say that they thought they saw him even downstairs. We don't know that for a fact. But there are statements to that effect that he had gone to the joint pantry, the communal pantry for patients on the ward, and so on and so on. So once this kind of thinking got clicked in and he started evolving more respiratory symptoms, we moved him right into the SARS unit.

Difficulties with isolating these patients were not restricted to the psychiatric unit or to the medical units. One of the physicians who worked with Patient No. 2 on the SARS unit recalled that her illness made it difficult to conform with isolation protocols:

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[561] Dr. Brian Hoffman, Chief of Psychiatry, memorandum to all psychiatrists and physicians department of psychiatry, Re: Closure of Psychiatric Inpatient Unit, April 29, 2003.

> I remember trying to isolate her [Patient No. 2] and because of her psychiatric illness we had trouble isolating her because she'd walk out and disregard all the rules and so forth.

This inability to comply with precautions and isolation resulted in Patient No. 2 being transferred four times before April 28, as she moved from psychiatry, to 3 North, to the SARS unit, to 5 West and finally back to the SARS unit. Dr. Mederski told the Commission that the psychiatric patients posed a challenge from an isolation and containment perspective. When Patient No. 2 became ill she was moved to a medical floor and then later to the SARS unit. Once she was on the SARS unit, it was difficult to isolate her, so a decision was made to move her off the SARS unit. As Dr. Mederski explained:

> She [Patient No. 2] was walking outside of the room in the SARS unit, essentially in all the areas where the nurses worked, within the SARS unit … and the SARS nurses were really frustrated with that, the SARS unit nurses, because they did not feel this was right, and they couldn't keep her in the room … This is a fully conscious person. So I asked them to move her back up to the psych unit, because although that room was not negative pressurized, it was locked, under full glass observation, so you could see if the person could do something to themselves, and didn't even have half the paraphernalia that the medical rooms had that could be endangering her. And that she was stable enough to go there. In other words, there was no need for any higher-level medical care at that point.

Staff were understandably concerned when they were told by the hospital that the patients had been immediately isolated and did not move around the hospital. A more cautious message to staff would have been more in line with the observations and concerns of those on the front lines who had worked with these patients. It appeared to some that there was a disconnect between what was being reported to staff and what was actually happening with these patients. As one nurse described the message from the hospital:

> … basically have no fear, whether they were seen as SARS or not, they were isolated and treated. And that's not necessarily true. They tried to isolate them in their room but they remained on psychiatry for a period of time until they became medically unstable and then they had to move them from a medical reason. But there was a period of time, be it days, I

> don't know, that they were on the psychiatric ward being treated by the psychiatric nurses, trying to contain them in their state … but the frustration was, how do we contain these people. We are a psychiatric floor. They can't be contained.

Another worry for staff was whether these patients could be relied upon to be accurate historians of where they went and with whom they had contact. Another physician who worked with Patient No. 1 recalled how difficult it was to obtain a history from him. Knowing this, this physician was skeptical about the focus on contacts:

> It was not possible because of his psychiatric illness to get an adequate contact history from him. One of the subsequent conclusions that I drew was that there were certain types of patients from whom a contact history would never be obtainable. The very young, the very old, the demented and those with psychiatric illness. So, all this intense focus on contact breaks down when you look at some of the subsets of patients that we see. And I think at that time, given the second case, the one that had the asymptomatic contact, and then the psychiatric case, all this public posturing over contacts made me very skeptical and very dubious.

The staff working on 7 West struggled under difficult circumstances. As one outside observer told the Commission:

> The one-to-one nurses, the nurses that were assigned to the floor were scrambling to do everything to detect its cause, to see where it was coming from, to protect the patients, to institute anything they could to prevent further spread. But it was sort of like doing it blindfolded because nobody knew exactly how it was getting in there and what was happening.

One physician who worked on 7 West noted that, although the patients were noncompliant with their requirement to wear masks, staff were very careful:

> One of the problems we clearly had was that too many of our patients were noncompliant. That led other parts of the hospital to think the staff were noncompliant. Once we had the two infectious cases, the staff were really good. And it was unbelievably uncomfortable, that gear, and in mental health, how do you interview anybody with masks and sometimes gowned and gloved? It's one of the most bizarre situations I've ever been in.

Fortunately, the nurses on the psychiatric unit, the medical units and the SARS unit did their best to isolate the patients, despite the difficult circumstances. They were vigilant in the use of precautions themselves. It is important to note that there was no known transmission from the psychiatric patients to other patients, visitors or staff. Clearly the cautious approach of staff and the adherence to their own use of protective equipment was critical. It is reasonable to assume that their extra attention to precautions prevented even further spread of SARS.

The two ill psychiatric patients remained under investigation for SARS by Public Health, but there were still no clear answers. As Dr. Mederski explained, one patient was getting better but the other remained quite ill and despite extensive investigation no one could determine an epilink:

> By this time, by that last week of April, both of them now, he was remaining quite stable, she on the other hand was getting worse. And her clinical condition was a worsening respiratory picture but again we had no link with any epilink. The link seemed like between these two patients, but [there was] no link to any other epilink that anybody could come up with. We went to the extent of having occupational health review all the nursing staff on that floor, had any of them been on the SARS unit, had any porters been on the SARS unit, some communal shared services go into the psych floor, and then down to the SARS unit. The thought that a lot of people kind of said was, maybe Patient No. 1, because he was known to be a wanderer, maybe he stepped out of the psych unit and ended up on the SARS unit unbeknownst to us, at some stage, got infected and then came back to the psych unit and infected her. So there was all these perambulations were being discussed, but no firm epilink ever came of it at that point.

No one was calling them SARS but no one could rule SARS out. And, if it was SARS, no one could say where or how they were exposed to the virus.

A Third Patient Becomes Ill

By May 5, a third patient was under investigation at the hospital for possible SARS.[562] Patient No. 3 had been admitted to the psychiatric unit on 7 West at North York General on April 22. She developed symptoms on May 5 and was transferred to the SARS unit the following day. The minutes from the May 6 meeting of the SARS Management Team reported that the case was "unlikely SARS."[563] The May 7 minutes reported that the patient was under investigation and that Public Health was to be involved.[564]

Although it was not believed that Patient No. 3 had had contact with Patient No. 1 or Patient No. 2, she had stayed in two rooms on the ward, both of which were used by Patient No. 2 while Patient No. 2 had respiratory symptoms.

Dr. Mederski again phoned Public Health for guidance. She recalled that there was great fear among the staff and more questions than answers:

> I'm on the phone to [Dr.] Bonnie Henry to say we've got now a third psych patient. Now, this is the very interesting case because you look at time frames. This is way out of keeping with the other two. They're already either gone home or have got better or whatever. Time incubation is way out of line, this is weeks later. Out of the woodwork comes the [another] psych patient. Well by now the fear is unbelievable. We thought we'd cleaned 7 West enough, didn't we.

Dr. Mederski told the Commission that when Patient No. 3's condition deteriorated and the patient had to be transferred to the intensive care unit, Dr. Mederski thought it might be SARS and she expressed her opinion to the family of Patient No. 3. Dr. Mederski said that she believed the physician who took over the care of Patient No. 3 also thought it was SARS. Patient No. 3 rapidly deteriorated; by May 11 her condition was critical and she required intubation.

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562. North York General Hospital, SARS Management Team Minutes of Meeting, May 5, 2003 – 0800 Hours, Main Boardroom – General Site.
563. North York General Hospital, SARS Management Team Minutes of Meeting, May 6, 2003 – 0800 Hours, Main Boardroom – General Site.
564. North York General Hospital, SARS Management Team Minutes of Meeting, May 7, 2003 – 0800 Hours, Main Boardroom – General Site.

On May 7, the hospital reported to staff that another psychiatric patient, the third to raise SARS concerns, was under investigation for SARS:

> This morning we have some news to share with you. Last night, an inpatient on 7 West developed a fever. The patient is now under investigation and has been transferred to the SARS Unit. As a result of this situation, 7 West is going to Level 2 status, and will not be admitting patients.
>
> It has been determined that staff were following all precautions and had no unprotected contact with the patient. Infection control is investigating.
>
> Later today, we will update you on changes to policies and this situation.[565]

Again, the hospital remained a Level 1 facility, changing the level in one area within the hospital, as opposed to the entire hospital. It is difficult to understand how the entire hospital was permitted to remain a Level 1 facility in light of the fact that they had now a third case of a patient under investigation for SARS from an as-yet-unidentified and unknown source. This time, the Provincial Operations Centre felt that even 7 West did not have to move to a Level 2 category. Out of caution, the hospital independently decided to move the 7th floor back to Level 2. As Dr. Rose told the Commission:

> This patient was an inpatient on the psych ward. So, the previous two psychiatry patients had been on psychiatry, April 18th, 19th, 20th. Now we're at May the 7th, and this is an inpatient on their own ward. So, beyond the exposure of the other ones, and an inpatient. So, much more heightened awareness of staff, potential problems related to this patient because they had been cared for all along on that floor. The patient had been isolated and had been under appropriate precautions, and that's why the hospital didn't change levels. Even at the time the POC said we didn't need to change the level of the ward because we had done all the appropriate precautions. But we closed the ward on our own.

Also that day, May 7, Chief of Psychiatry Dr. Brian Hoffman sent another memorandum to all chiefs of psychiatry in the GTA hospitals telling them that there was another patient under investigation for SARS, that the previous two patients remained under investigation on the SARS unit and that the psychiatric unit was being closed to admissions.[566]

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[565] NYGH, SARS Update #34.

May 7 was a key date in the second outbreak. Not only were staff learning about a third psychiatric patient under investigation with SARS, but this was also the date that the hospital, in accordance with overall provincial directives, relaxed universal precautions throughout the hospital.[567] Some staff saw this as a welcome respite from the stress and strain of wearing personal protective equipment at all times. For others it was a controversial decision that signified a disconnect from the concerns of those who believed the psychiatric patients were SARS and that there was an unidentified SARS exposure. More will be said later in the report about the relaxation of precautions at North York General Hospital. It also will be noted that the hospital relaxed precautions no earlier than other hospitals and did so in compliance with provincial directives. Also addressed below is the disconnect which appears between the May 7 announcement of a new case of SARS and the May 7 relaxation of precautions.

The following day, May 8, staff were told that 7 West was to be thoroughly cleaned and that infection control continued to investigate the situation. Although precautions were relaxed in other areas of the hospital, they were to continue on 7 West and the unit was once again closed to new admissions.[568]

The May 8 SARS Management Committee minutes included the following notation:

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[566] The memo provided:

> The Department of Psychiatry at North York General Hospital has had another inpatient develop a fever and cough. This patient has been transferred to the SARS unit and is presently under investigation for SARS. As with the previous two psychiatric inpatients, there was no known contact with an epicenter or a SARS patient. The other two patients are still under investigation on the SARS unit.
>
> We are closing admissions to the psychiatric unit at this time.
>
> I appreciate any assistance you are able to offer our crisis team and psychiatrists if they have to contact your unit for admissions or transfers. Please feel free to contact me if you require further information.

[567] NYGH, SARS Update #35.

[568] NYGH, SARS Update #36.

> The Clinical Chiefs have registered concerns about the 7th floor situation. They view it as a cluster of SARS cases with unexplained etiology and feel we need to respond from a risk management perspective. They are requesting an external evaluation, and that 7 W should be treated as a level II.[569]

Dr. Glen Berall, co-chair of the SARS Management Committee, told the Commission that they took this concern by the clinical chiefs seriously, and that they responded to it:

> There was discussion with Health Canada, and I think that's because they were at the time there, they had the discussion all together by phone, and reviewed the information and the data on the cases and decided that it was not SARS. And not only that, it's the federal government that calls in the CDC [Centers for Disease Control], as I understand it, that's what I was told, and Health Canada didn't feel that they needed to call in the CDC at this point in time so they weren't being called in. And I reported that in the meeting because that was what I was told, but that they were running the data that they had taken from the environmental samples on 7 West previously, and that we'd have our answers back. So what I did with the concerns of the clinical chiefs was, I brought their information forward, they ended up being discussed with Public Health again, with Health Canada as well. The request for the CDC was put forward and we followed up on the environmental samples.

Dr. Berall told the Commission that he understood that the clinical chiefs were satisfied with the response and the followup:

> They were satisfied that we had discussed it with the experts. They were satisfied to hear that they were getting the environmental sample results back. They were satisfied to hear that Health Canada had been involved in the discussions. That was their [the clinical chiefs'] response.

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[569] North York General Hospital, SARS Management Team Minutes, May 8, 2003, 0800 Hours, Main Boardroom–General Site.

Also that day, the chief of psychiatry issued a memorandum to all staff psychiatrists and physicians, as well as the unit administrator, the program director and other middle managers. The memorandum provided the following information:

> As you know a female patient from 7 West has been transferred to the SARS Unit the night before last. She is still under investigation.
>
> Nevertheless, we have asked the hospital to re-do a thorough cleaning of the south side of 7 West, including the air vents. We have also asked the hospital to investigate the cause of the water stains on the outside walls of some of the rooms on that side of the building.
>
> In addition, there will be a discussion with Public Health to discuss the process for a complete investigation of any possible air or droplet circulation between 8 West and 7 West.
>
> The province has not directed us to Level 2. Nevertheless, we are going to take Level 2 precautions and avoid admissions to 7 West and 7 North.
>
> We will follow the clinical state of the new patient very carefully and will keep you informed if there is any evidence for the development of SARS.
>
> With respect to the previous two 7 West patients who developed symptoms two weeks ago, one developed microbacteria that would explain his symptoms. The other patient is currently being treated as a probable SARS case and remains with a tracheotomy in the ICU. She appears to be making some positive progress.[570]

The news that a third psychiatric patient had developed respiratory symptoms was of great concern for the psychiatry staff. Many of the staff believed that the previous two ill psychiatric patients had SARS. For them, the question was not whether these patients had SARS, but where was it coming from? They worried whether the ventilation was safe or whether something was leaking through the ceiling. As one health worker told the Commission:

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[570] Dr. Brian Hoffman, Chief of Psychiatry, memorandum to: all staff psychiatrists and physicians, Saul Goodman, Jean Smyth, Marilyn Ferguson, Helen Ross, re: SARS Update, May 8, 2003.

> … they [the three patients] were all in the same seclusion room at different times, an inpatient unit has rooms and it's a locked unit, and then we have a special care unit that has three separately locked, contained, walled seclusion rooms that are very small with an outside window. And this is where we would keep our patients who are most ill and they had all been in the middle seclusion room at different times … The staff were concerned, as to this type of ceiling, that there was leakage from the ceiling. And that was directly under the SARS unit above that had a patient room right above it, because the layout of the floors, of course, is the same. Our reconstruction was that rather than having one patient room, we made it into three small cubicles. So they said, well there must be something wrong, there's something coming through the ceiling, which was denied … The staff were bringing up all kinds of possibilities, you are doing all this construction, there is a new mechanical room being built, how do we know what's coming through the air vents, how do we know what's coming through the water pipes, whatever.

The stains were investigated and ruled out as a possible source of SARS exposure. As the SARS Field Investigation noted:

> 7 W was directly below 8 W, a SARS unit, and there were concerns related to water stains on ceiling tiles in multiple rooms on 7 W. Capt. Ken Martinez, an industrial hygienist/environmental engineer from NIOSH [National Institute for Occupational Safety and Health], concluded that the sewage pipes were on the opposite side of the room of the ceiling stains and were not the source of these stains. Rather, the stains were leakage from previously disconnected closed loop ventilation induction units between 7 W and 8 W that were improperly capped or represented drainage of residual water out of those units. Environmental samples taken in the vicinity using viral culturette swabs tested negative for SARS-CoV by PCR. There was no evidence that the ceiling stains contained infectious material from SARS patients.[571]

In the meantime, the staff on 7 West, convinced they had three patients who had contracted SARS while inpatients on the unit, tried to understand how SARS could be getting on their unit. The hospital, also worried about this third ill patient, was again consulting with Public Health officials and outside experts for guidance.

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[571] SARS Field Investigation, p. 23.

May 8 Conference Call

On May 8, during a meeting/teleconference involving physicians from all levels of government, outside experts and Dr. Mederski, the psychiatry cases were presented. After a discussion about them, the consensus was that the patients did not meet the definition of SARS, primarily because there was no epilink.

Although the psychiatric patients were not called SARS or classified as SARS, it was decided that out of caution they would be managed and treated as SARS cases.

One expert who participated in the conference call recalled that there was a lot of concern about these patients. He described the problem with the epilink and the conference call as follows:

> So you had some people that were popping up with atypical pneumonia in a cluster fashion, and Barb [Dr. Mederski] knew that and Toronto Public Health, I believe, knew that. There was actually a teleconference call on May 8th. But there was a teleconference call which I was part of and several physicians from the greater Toronto area were on that. Basically around the room it went, do you think these psych patients have SARS? And there was actually even a vote taken and the general consensus from the clinicians – and it wasn't just Barb Mederski, there were others – I think what I heard from Barbara Mederski was a lot of concern at this time, but other people were concerned too. I think they were giving honest evaluations, the other clinicians who were part of this. And they're giving honest evaluations and because they didn't see an epilink they decided that it probably wasn't SARS. On May 8th on that call we knew about the three psych patients and the onset dates that I had in my notes were the 18th for one, the 17th for another and the 23rd for another. There was a cluster of atypical pneumonia in these psych patients and there weren't real good lab tests as you know. There's no lab test that immediately can tell you but one of those had a weekly positive stool PCR for SARS. And that was then repeated and it was negative. This is the one who had an onset, I think on the 17th. And the feeling was it was a false positive. We know false positives occur with these tests. And there was nothing that really stuck out. You've heard about the low white count, the low white blood cell count, the low platelet count. None of those things were really sticking out there,

> although none of those are that specific anyway. But they did have atypical pneumonia, and they were a cluster.

Toronto Public Health files indicate that on May 1, there was a positive test result for SARS coronavirus in the stool of Patient No. 1. This was later followed by a negative result. Although the first positive result added to concerns, it was not determinative of anything and the second negative result suggested that the first result was a false positive. As Dr. Henry explained:

> Question: So when the discussion … was the issue of a positive stool sample on the table?
>
> Dr. Henry: I believe so.
>
> Question: It is not something that got just overlooked?
>
> Dr. Henry: No, gosh no. The testing was so uncertain at that time, it was unclear, what a positive or a negative meant. A negative was occasionally helpful, if you had multiple negatives you were pretty sure, but if you had multiple tests done and one was positive weekly, it didn't tell you anything. So it's just so hard to know if you don't know what the tests parameters are. You don't know what the false positive grade is and what the false negative grade is. So testing was extremely unhelpful in multiple cases. The only testing that became helpful was the serology testing eventually, but we found out that most people didn't develop antibodies until several weeks after infection, so that wasn't helpful in making the initial diagnosis. We did do a look back at all of the PCR [polymerase chain reaction] testing we had, because most of the PCR testing, there are two types of PCR tests done. There was a nested PCR, which is a way of basically amplifying small pieces, like very small amounts of RNA, in this case, and it is much more susceptible to false positive. And then there is RT, or reverse transcriptors, PCR, which is much more specific but you need to have more nucleic acid available for it to be accurate. So if I recall, Patient No. 1's stool was a nested PCR and the RT PCRs were all negative, so it kind of made it, who knows. The RT PCR is what got the … I don't know if you recall, but there was the nursing

> home respiratory outbreak in B.C., and the National Micro Lab had done this nested PCR and said, oh, my God, it is a SARS outbreak, and then these people weren't sick and it caused a great deal of angst. It is still to this day not a very accurate test, and they are certainly putting money into developing a test. They are putting a lot of money into a vaccine and things.

Although one participant in the call recalled that the Centers for Disease Control and Prevention suggested that they consider serology testing to rule out SARS, serology tests took weeks to perform and did not always provide conclusive results.[572]

In the meantime, the psychiatric patients remained in this uncertain place – treated as SARS, not classified as suspect or probable SARS, but not ruled out as SARS either. But staff were not aware of this uncertainty and were not aware of the behind-the-scenes consultations and discussions with outside experts. Questions remained about the psychiatric patients, and staff continued to be concerned about the unexplained illness of these patients.

NYG 7 West Cover-up?

One unsettling question about North York General is whether the hospital was completely open about the outbreak of SARS in its psychiatric unit in late April and early May.

On May 7, concerns that there may be a third psychiatric patient with SARS closed the psychiatric ward to new admissions. The closure of the unit was reported by the chief of psychiatry to other area psychiatric units in the following memo:

> The Department of Psychiatry at North York General Hospital has had another inpatient develop a fever and cough. This patient has been transferred to the SARS unit and is presently under investigation for SARS. As with the previous two psychiatric inpatients, there was no known

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[572] The most accurate form of testing involved convalescent serology testing. This required that a sample be taken at multiple stages of the illness, to determine if the patient developed antibodies to the SARS coronavirus. In some cases antibodies did not develop until more than 28 days after the onset of illness. Source: CDC Fact Sheet, SARS Laboratory Diagnostics.

> contact with an epicenter or a SARS patient. The other two patients are still under investigation on the SARS unit.
>
> We are closing admissions to the psychiatric unit at this time.
>
> I appreciate any assistance you are able to offer our crisis team and psychiatrists if they have to contact your unit for admissions or transfers. Please feel free to contact me if you require further information.

The same day, the hospital sent an update to staff saying a 7 West patient was under investigation and had been transferred to the SARS unit. Staff were told that 7 West was going to Level 2 status; there had been unprotected exposure to SARS in the last 10 days, but no known transmission to staff or patients.

On Thursday, May 8, the hospital reported to staff that the psychiatric unit was being cleaned and was not admitting patients:

> This morning the SARS Task Force started the meeting by discussing the situation on 7 West. The unit is being thoroughly cleaned and Infection Control continues to investigate. We will continue to take precautions on 7 West and will not be admitting patients.

On Friday, May 9, the SARS management team minutes noted:

> 7 W will not be officially declared Level II and CDC will not be called in.

By Sunday, May 11, the news media were onto the story. Telephone calls to 7 West were referred to other parts of the hospital but the media had no success in reaching anyone. The *Toronto Star* reached Dr. Glen Berall, co-chair of the SARS Management Task Force, on his cellphone, while he was on a family outing. On May 12, the *Toronto Star* reported about a possible SARS scare at North York General:

> Also yesterday, despite reports that a North York General Hospital floor is closed due to a SARS scare, Dr. Glenn Berall, co-chair of the hospital's SARS task force, says the ward has always been open for business as usual. Toronto Public Health and provincial operations committee officials were asked to investigate when a patient developed a fever in the psychiatric department last week, but doctors have since diagnosed the patient as SARS-free.

> The floor was not formally closed and guests were still allowed to enter, although nurses and doctors were "still taking normal isolation and infection precautions," says Dr. Berall.[573]

Dr. Berall denied saying that it was business as usual at North York General. In his interview with the Commission, he said that he did, however, try to explain that while the unit was not accepting new admissions, it was not formally closed:

> I had an interview with them. They didn't get that right. I don't know how they managed to get that. The interview, as I recall, happened in the following fashion. And I remember this interview because it was a bit of a frustrating interview because I felt that I was trying to get them to understand and I couldn't quite, but I was also at a movie with my kids and I got the phone call that the *Toronto Star* reporter would like some information. So I stepped out of the movie into the hallway in one of these large movie houses where they've got bells ringing and noise like crazy, on a cellphone, and you know what that's like in one of those movie theatres. So I'm not sure whether or not the communication was ideal. Regardless of that, the *Star* reporter managed to get the message at the very bottom of that page which is the last line, "the floor was not formally closed." That sentence, that phrase which they got, doesn't fit with "open for business as usual." "Was not formally closed" isn't "open for business as usual," and I was trying to get the reporter to understand that we were doing a heavy cleaning, the admissions were constrained. No, we weren't formally closed. We hadn't been told to be formally closed. But we were being cautious while we were looking further into the situation. And I don't know quite where that piece of information came out like that.

Nothing would be gained at this stage by an inquiry into any competing recollections of Dr. Berall and the reporter as to exactly what words were used. The bottom line is that the public got the wrong message and the hospital did nothing to correct it. Although Dr. Berall explained to the Commission that the unit was not in fact closed, that it was simply suspended to new admissions, the precise status of the unit is immaterial. The distinction between closed and suspended was not clear to those involved in the case of the psychiatric patients and remains so today. Whatever precise language one uses to explain the status of the unit, the reality was that it was not business as usual, yet the opposite was communicated to the public.

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[573] "Canada scorns Finn link to SARS," *Toronto Star*, May 12, 2003, Ontario edition.

The closure of the unit, notification of other Toronto hospitals of a problem, investigation by infection control staff, and the confusion over whether 7 West should be Level 1 or Level 2 certainly are not evidence of business as usual. Serious steps were being taken to investigate serious concerns that SARS was back at North York General Hospital and was spreading. On May 12, there were only eight patients on the unit, when there were normally around 25 patients. Three patients remained under investigation for SARS, two in serious condition. If these patients had SARS, no one knew how they got it. There was in fact a SARS scare at North York General and the public was not told about it.

Whether or not the phrase "business as usual" was used, this was, unfortunately, how the message was understood by the media and that was what was reported to the public. There was nothing to report what was happening: that there were in fact three patients under investigation for possible SARS, that all three of them had been treated on the SARS unit, that two of them were still being treated on the SARS unit, that staff and contacts had been investigated and some quarantined and that for a second time in two weeks, the psychiatric unit was closed to new admissions and had undergone heavy cleaning.

It is understandable that staff working at the hospital who were aware of what was happening with these patients wondered what was going on when they saw the media coverage. This incident, when viewed in light of the recent World Health Organization travel advisory, the devastation of SARS on the Toronto economy, and high-level political efforts to convince the World Health Organization that SARS was not spreading in Toronto, aroused suspicions that North York General was hiding, or at least downplaying, the new SARS outbreak. It fed staff concerns that they were not being told the whole story.

There is no reason to doubt Dr. Berall's account of his intention when he talked to the media and no evidence that the hospital or anyone in the hospital deliberately tried to cover up the 7 West outbreak. However, the public was given the wrong impression and the hospital did nothing to correct it. The hospital and the public would have been better served if there had been more openness in respect of the events of 7 West.

One lesson of SARS, repeated time and time again, is that anything less than full and frank openness will return to haunt public institutions and their spokespersons. During any public crisis, there is no forgiveness for spin or obfuscation. Some people might reason that shaping and softening messages to the public lessens anxiety. In public crisis we all must face the threats together and to do that we all must have the facts.

It's really simple: The public is entitled to the clear, unconfused facts.

May 13 Meeting with Psychiatry Staff

Throughout this period, staff on the psychiatric unit continued to worry that these three patients in fact had SARS. Psychiatry staff were understandably upset when they became aware of the press report claiming that it was "business as usual" at North York General. They knew otherwise.

On May 12, the hospital issued an update to staff about these reported comments to the media, and an update on the status of the three psychiatric patients:

> This morning's discussion centered on the announcements made in the media on Sunday evening and this morning about the psychiatric unit in the Hospital being closed due to SARS. We realize that it is very important to outline and clarify the facts for you.
>
> 1. As reported in SARS Updates #35 & 36, a patient on 7 West became ill last week with a fever. The decision was made to close some beds on the unit to allow for heavy cleaning of the unit as an extra precaution while the case was being investigated.
>
> 2. Public Health and Health Canada have reviewed the case of the above-mentioned patient. They have determined and reassured us that this patient does not fit the criteria of a SARS case.
>
> 3. This patient is now being treated for another respiratory illness, but remains on the SARS Unit. A decision was made early on in the SARS Emergency that all patients admitted to the SARS Unit would only be discharged home and not to other units. This explains why some patients who are being treated for other medical conditions remain on the SARS Unit.
>
> 4. On April 29, two other patients from 7 West fell ill. Both patients were immediately put on respiratory precautions once they exhibited symptoms. These cases were reviewed by Toronto Public Health and

> Health Canada and it was determined that both did not meet the criteria for SARS. One has since been discharged and the other remains on the SARS Unit and is being treated for another medical illness.
>
> We realized that this situation caused concern for our staff. To the best of our ability, we will continue to try to provide you with the most up-to-date information in an accurate and timely manner. We hope that the above facts answer any questions you may have. However, if you have any questions about this situation, please e-mail the command centre at [email and extension provided] during regular business hours.[574]

Again the message to staff conveyed a confidence about what was happening that was misplaced. While it was true that the patients did not meet the case classification for SARS, they were all still under investigation for SARS and two of them remained on the SARS unit. There was no explanation to staff about what was ailing these patients, if they did not have SARS.

Psychiatry staff, upset by the confusion surrounding these patients, demanded a meeting with hospital officials. The meeting took place on May 13.

At the meeting, Dr. Berall told the staff that the media reports were partially incorrect and that he had been misconstrued. In the meeting, staff were told the patients did not have SARS.[575]

According to the minutes of the meeting, staff were told:

> Dr. Glen Berall was introduced as co-Chair of SARS Task Force. We discussed the 3 patients from Mental Health that have been on the SARS unit. One has gone home and the other 2 have atypical pneumonia but not SARS. Public Health has cleared all 3 patients as Non-SARS after consultation with the experts. Dr. Berall indicated that the media reports recently are partially incorrect and that they misconstrued some of his comments. [original emphasis]
>
> There have been no new SARS cases identified in the city since the 19th of April. The mental health inpatient units will reopen today. That means

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[574] North York General Hospital, SARS Update #38, May 12, 2003.

[575] North York General Hospital, Mental Health Department, SARS Staff Meeting, May 13, 2003.

> that we do not have to wear gowns and masks. Dr. Hoffman assured staff that we are justified and supported in our concerns for patients and staff. The precautions over the last few days were justified to ensure that the proper investigation and cleaning was done.
>
> Staff are encouraged to continue to wear precautions that make them feel safe & comfortable but that we can return to normal working conditions. The staff and SARS team support the need to continue with some precautions once this crisis is cleared. It was suggested that we continue with antibacterial washes being placed in hallways and in various places throughout the units.[576]

For some staff, especially for those who felt that the minutes did not represent what actually took place at the meeting, the meeting simply made things worse. One nurse described her view of the meeting:

> The staff came out feeling very frustrated. They'd been talked down to as if they were stupid. They felt disappointed, confused and frightened, and they definitely had absolutely no faith in the management or the way they were being dealt with. They felt they were being lied to and felt information was being withheld.

Another nurse described the meeting and how staff felt that their concerns were not heeded:

> It sort of reached the point one day that we had a meeting with Dr. Berall and the coordinator, I'm trying to remember who else, they were the main two, with the nurses from 7 West, 7 North, day hospital, and myself, basically to tell us that we're way off base. And that there was no need, and I think at this point it was the question of protection, that we were being, they didn't say hysterical but much to that effect, that this was not likely SARS … The impression they left was they were concerned but they didn't think it was SARS and they didn't think it was necessary to move the patients from the floor. These were all patients who were very hard to contain. I can understand moving them to another floor was very difficult, but at that point SARS had proven to be a pretty

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[576] North York General Hospital, Mental Health Department, SARS Staff Meeting, May 13, 2003.

> deadly thing, you don't fool around. So, we kept saying, if it looks like a duck, quacks like a duck, then consider it to be a duck before you say that it isn't. And we didn't feel that was happening at all. So what happened was, a great deal of frustration, a great deal of anger. We were talked to, I would say talked down to, and talked to very rudely.

One hospital official who was at the meeting sympathized with front-line staff. He reflected that in hindsight the opinions were too definitive in the face of uncertainty but that, at the time, management was doing their best to manage the situation:

> I think they're real. I think people felt this very strongly and I have said, I guess in early conversation, that I think trust was a big issue in the hospital all the way through, trust of management. And I think the other thing would be there was, so I'm going to call it a bit of an arrogance I suppose on our part, certainly the medical staff, to say we have the answers and you don't have the answers, and I think the staff found that very, very frustrating. All that probably would have gone away had SARS, in fact, gone away as well because it would have vindicated the medical opinion. In actual fact, in that grey area of that time, it would have been difficult to give as definitive statements as seemingly were given at these meetings. On the other hand, I think there was a general fear that you needed to manage the situation appropriately. So I don't question the motivations of any of the doctors or any of the administrators that were there. I think it was a question of trying to manage the situation to the best possible way. But I can understand the staff's reaction as captured here.

Dr. Mederski told the Commission that at the meeting she repeated the views of outside experts that these cases were not SARS. She told the Commission that although she privately did not agree with the outcome of the adjudications, in the face of what appeared to be consensus among the experts, and with no test or clear indicator to say whether these patients were SARS, she felt that she was left in the position of having to bow to the consensus and repeat the opinion of the experts who had adjudicated the case. She said that she felt very uncomfortable at the meeting with the psychiatry staff:

> Dr. Mederski: This was the meeting that was fairly needed because of what I alluded to earlier, a very high level of concern on the 7th floor. As well, it was for the rest of the hospital staff, as to how the heck did this patient, the third one, come down with an illness that is looking for all the world like SARS,

behaved badly because she's now intubated, and yet we have been told by others that this is not SARS. And so … I was directed to go up, with Dr. Berall, to speak to the nurses and to the staff about this as some person who ostensibly has some, dare I say, authority or opinion about it.

And my role, that I saw, was that I would have to say what was said to me by the adjudicators, which were [Dr.] Don Low and others. And so there you go, you have the comment, one had gone home, that would have been Patient No. 1, and two others have atypical pneumonia but not SARS, I shouldn't say that too quickly as to who went home, because I am not sure who made the decision of atypical pneumonia. This would have been my statement or Glen's [Dr. Berall's] statement to the effect that this is what we were told by the adjudicators after the specimens were sent out to the other labs outside.

Question: So did you express your own views at that meeting?

Dr. Mederski: I remember sitting in the corner, on something, and being extremely uncomfortable at that meeting because I didn't feel comfortable about saying anything either way. But I felt that I was in a position that I had to say something because, in fact I think I had even maybe had something to say to Glen, like I am not going to say very much, but I don't know. Anyway, I really tried to say as least as possible.

I had to say something because one of the nurses was pretty aggressive and basically put it to us that, you know, how can you be so blind to this whole thing when you are seeing two cases. And then I paraphrased what Glen had said. Like being the scientist, say, well, you know, you have atypical pneumonia that for all the world looks like SARS or SARS looks like an atypical pneumonia, so it is not unusual that these could be – and they transmit the same way because the data is there for centuries that they do, and yes, it can happen that people get sick at this time of the year with these things and that it's transmissible, and it makes sense, you know, community acquired pneumonia, it does happen. I've been doing this for many years, so I think it can happen.

Question: In paraphrasing all that, there was something that you weren't saying, or didn't feel that you could say, in that setting?

Dr. Mederski: Well, I think that the staff knew that I had an opinion in this regard. I think people had sort of word of mouth spread that I was treating them as SARS. They were in the SARS unit. So it would have been hard to keep that away from the staff up there. This was a pretty cosy group that knew what was going on. But I would have had to defer to the higher lines, and when we were asked to come and speak to them it was with the idea of placating them and settling them down and making sure people didn't go off the deep end with nervousness and so on. So, basically I was in the position of being able to paraphrase others' opinions. I don't seem to recall somebody asking me, so what do you really think. Not at that meeting, I don't think.

When asked by the Commission what she would have said if someone at the meeting had asked her what she really thought, Dr. Mederski said:

> It would have been difficult. It was difficult to be there, though, it was very difficult.

Dr. Mederski told the Commission that in the face of a consensus among experts that these patients did not have SARS, she did not feel comfortable speculating about the cases, notwithstanding her own personal views:

> Well, the staff had been worried sick about the psych unit being a source of SARS. To them, it meant everything. On one hand, we're being told we're protecting our staff on the other hand, there's people becoming sick, none of them staff, mind you, just patients, but still, it happens. So after that, those two cases of Patient No. 1 and Patient No. 2, there was a huge, huge effort to clean the psych unit, we went to Level 2 there. Environmental services came in, they even repainted areas, they looked at duct cleaning, they looked at drips on the wall, all kinds of things. So there was now a lot of activity around the psych unit, and assuming that

> finally everything is now clean. And that's the way the word went out, to all of us, that we were okay.
>
> So suddenly, two weeks later or three weeks later, to have another patient, ironically from that same room, which I had focused on, that room, come back with symptoms that were not dissimilar to the others, was really scary, because it suggested that some transmission perhaps of this, whatever, in spite of the cleaning, or where else was it happening. On one hand we are sure that it has been cleaned properly, but on the other hand there is somebody coming down with symptoms. There is a fear factor that paralyzes individuals from working properly in those circumstances. People don't think logically when they are afraid. And even though there are means to protect ourselves and they know at this point they have no evidence of staff transmission, there is still a fear factor, which will inhibit the way people work.
>
> So, I mean, [name of nurse] was one my best nurses on the SARS unit, and I would speak to her candidly, and she's probably one that may or may not remember me telling her how I was very worried about [Patient No. 3] possibly having SARS, but I wasn't speaking the same way to all the other nurses. They had to, by definition, protect themselves, and do the right thing anyway, technically they should have, but to tell them would mean that they could tell the rest of the hospital, would mean everybody would be worried. It would make everybody furious at the hospital, that they did something wrong up at the psych unit, that maybe they didn't clean it properly, that maybe there is something going on up there. I didn't feel comfortable that that should be immediately speculated. Although later on, I was quite open about it.

Dr. Mederski said that she knew staff were worried, that they thought these patients could be SARS, and that they wanted to know where it was coming from and whether they were in danger. But she said that she had definite opinions that the disease was not airborne and that staff were not at a higher risk, and said that she communicated that message to staff at the meeting. She said:

> Dr. Mederski: I think that at the time of this meeting, I am talking about the 13th, anything to do with the psych unit, I believe, myself, I would have said at some point to whoever would listen, that I did not think this was an airborne disease that was coming from the 7th floor to the 8th floor, or from the

8th floor. I made a very strong point about that. There was a concern about ventilation spread, you know, this was the anthrax theme, that this was happening and the vents were, the drips that were going down the walls were somehow related. And I would have stressed my opinions about that and I would have said no, I don't think that's what it is, and I don't think this is an airborne-spread disease. And that's where the focus of the hospital was, from the top administrators down, airborne, airborne, airborne, airborne, negative pressure, negative pressure. And by this stage, we already had data from Singapore or China or Hong Kong that this disease had a significant element of contact in and adhesiveness to surfaces. Which was after [that whole apartment] outbreak that occurred with the flushing of toilets in Amoy Gardens.

And the way this outbreak was spreading, the way I was working this out in my own head, and reading everything I had and listening to the WHO, was that this was not in my mind at any point a huge respiratory issue like influenza. And I kept trying to say that to the staff, this is not influenza, this is not anthrax, this is the type of disease where the surfaces you touch, where you cough, where you spit, where you have your bowel movements, that's important, not so much the vents on 8 West and on psychiatry.

I even went to the building director and I asked him to give me the blueprints, or to discuss the blueprints about the ventilation system, the way it goes. And I was assured that it was totally independent of the SARS unit end of the hospital and that there is no human way that it could have at all had anything to do with that. I tried to explain that, because that was where everybody's fears were.

I was more concerned that it was the environmental cleaning of the surfaces that left "unchecked points." But that didn't seem to, people were more enamoured by the notion of it being a ventilatory thing, which is why I am saying that I wasn't worried about closing, about allowing other areas of the hospital to open, because it didn't make sense to me

> scientifically or epidemiologically, what I was gleaning up to this point, two months of looking at new cases, that that's really where the problem lay. I have to say that because if I don't then you won't understand what I am trying to say later.
>
> Question: At the time of this meeting on the 13th, the context of the staff concern was, whether they were at risk from the psychiatry patients, and when you gave the official view to which you deferred, you did so in the context of your confidence that these patients did not pose a risk to the staff?
>
> Dr. Mederski: I did it in the context of what Public Health had told us was the final adjudicated opinion. That was my formal position. My informal position was that even up to this point we had no ill staff, or for that matter other patients, but certainly staff, and that I don't believe this is an airborne disease. I don't believe they had a higher level of risk, period. That's my personal view.

Another feature of the May 13 meeting that angered staff was the "almost ceremonial" way in which senior management at the meeting removed their masks during the meeting in what was perceived as an effort to encourage staff to remove their personal protective equipment. As one nurse manager told the Commission:

> I remember the meeting in the boardroom. They said everything was okay. To take off our masks. It was an almost ceremonial taking off of the masks. I didn't, a number of people didn't. We felt that it was too soon. We went back to our unit and I told staff that if they wanted to wear the mask to feel free. A number took them off and a number kept them on. I took mine off periodically from the 7th to the 23rd. We got braver. More took them off. Some of my staff wore them throughout.

But those representing management at this meeting told the Commission that they believed the assurances they were giving staff and believed that staff were safe. As Dr. Rose told the Commission:

> The unit had been identified of a potential SARS patient, even though we had reassured them that that patient, at that point, as far as we were aware did not have SARS. I think the minutes are pretty self-explanatory.

> One's gone home, two have atypical pneumonia. Public Health has cleared all three patients, after consultation with all the experts. There had been some media reports on the weekend, I think the *Toronto Star* had said SARS is back or they had done something, I don't have the article with me, but it had not been particularly positive. And Glen [Dr. Berall] had made some statements which he felt were incorrect and he corrected them. Dr. [Brian] Hoffman was there. The only thing that is not written in the minutes here that I can tell you is, we made a conscious decision, Brian Hoffman, Glen Berall and I, to walk into that meeting and take our masks off. That's not in the minutes, but we did it because we felt it was safe, based on the classification that the experts had made, based on the history after a week of seeing what had happened with the patients and that there were other diagnoses that were plausible and that they hadn't progressed and got a whole lot worse.

Despite what was said at the meeting, some staff continued to doubt what they were being told. They worried that their concerns were being ignored unless a clear epilink was proven. One nurse said:

> What was not listened to, is that we all knew that they may not have an identified link with the epicentre, but that the protocols around personal protection were being broken left, right and centre.

Some nurses could not accept that these patients did not have SARS and could not understand how three otherwise healthy individuals, all in the same unit, in a hospital that had SARS, could be ruled out as possible SARS cases. As one nurse said:

> But the issue was that demographically you don't get atypical pneumonias very often in psychiatry. So the bells should have gone off. And this was not in the depths of winter either when everybody's sick. They all presented the same way and they all had mental health problems but they were relatively healthy.

One nurse described there being an "impending sense of doom" at this time, as they simply did not believe that these patients did not have SARS:

> I guess over that time, we certainly were being filled with a more impending sense of doom about all this, in that when we learned that patients on the inpatient psychiatric unit were suffering from respiratory problems, we felt that it defied any kind of logic, that all of a sudden

> these patients would be ill, that it would be SARS, and in none of our experiences had we seen any more patients develop a hospital-acquired, unit-acquired pneumonia or problems.

The problem was not that hospital officials were unaware of staff concerns. The problem was they believed that the experts had ruled SARS out. They thought that they needed to convince the staff that their concerns were unfounded and make them understand that it was safe. As Dr. Rose told the Commission:

> I knew that the staff was concerned because that is why we held the meeting. We were told the staff was concerned. They don't understand, they just don't have enough information to know for sure that what we're telling them is that it's okay to take off your garbs. There is no SARS here.

Hospital officials felt that they had the advice of experts, that the experts knew what they were doing and that they were doing the right thing by convincing staff that the experts were right. The hospital felt that they were safe due to the assurances they had understood from Public Health. They understood that these patients did not have SARS. They were confident that there had been no transmission to staff or other patients.

Hospital officials, including Dr. Mederski, said that they went into the meeting to convince the nurses that they were wrong, that these patients did not have SARS. As noted above, Dr. Mederski told the Commission:

> … when we were asked to come and speak to them, it was with the idea of placating them and settling them down and making sure people didn't go off the deep end with nervousness and so on.

This is what angered so many nurses. In the face of what appeared to be a consensus among the experts, their concerns, which turned out to be well founded, were dismissed. As the unit administrator said, the communication and the focus on the return to normal were disconnected from the front-line staff concerns:

> The whole thing was a disconnect. Everything was a disconnect. She's sure one day, one thing and you do. Six days later they can say it's not SARS. So, first it is and then it isn't. So, picture yourself, this is how you have to put yourself in the position of a staffer, you're a casual staff nurse who works maybe every other weekend or three shifts every two weeks.

> So, you come in and you look and you see all these minutes that you want to catch up on. You see the ones from the 7th saying it's SARS, then you see the one from the 13th saying it's not SARS, back to normal, and then you go and read what's going on in the hospital, relaxing things. The confused messages that people were given was just incredible. And it wasn't just senior administration, it was also coming from Public Health. They waffled. Everybody was waffling constantly because it was new territory, they didn't know. If it happened again, I think the thinking now would be, "let's use every precaution that we think is necessary in order to prevent outbreak," but three years ago it was, "let's not alarm people; let's not close up; let's not affect our position and what's the spin that we can put on it?" "What can we do to get things back to normal as quickly as possible." I think the attitude of all hospitals and Public Health would be different if this happened again. That's what should come out of it, that you use as many precautions as are required to ensure that staff and patients are safe. And you go overboard with prevention.

Despite the sense of dismissal and dissatisfaction among some of the staff after the meeting, the message sent to hospital officials after the meeting was that things were back on track. A May 13 email from the unit administrator of the psychiatric unit to a senior hospital official said:

> … thanks so much for the meeting with my staff. I know it made a difference for them.

A followup in this series of emails also included the following description of the meeting by the unit manager:

> It went very well and I thank you for your help and support. I know the staff felt heard …

Based on these emails, the message that went up the chain of command was that the meeting and the messages provided at the meeting were well received. Again, there was a disconnect between the front-line staff and upper management. The front-line staff still thought these cases were SARS and were concerned about the hospital's handling of these cases. The hospital thought that the matter had been resolved and that it was time to move forward to a return to normal.

However, as the unit administrator explained, the email was intended to thank management for meeting with the nurses, not to signal an end to the concerns of nurses. As she told the Commission:

> [The email was saying] thank you for coming and I think the staff does feel heard, but that doesn't end: you can't just have one meeting and dispense with all feelings, of months. Although I am sure that administration would like to think that that was the answer, it just doesn't go like that.

She told the Commission that even after the meeting, staff continued to believe that these cases were SARS and they continued to wear masks.

As May progressed, hospital officials continued to plan a gradual return to normal, under the belief that there were no new cases of SARS. As Dr. Rose explained to the Commission, he truly believed the information he provided to staff and that there was nothing more they could have done in terms of the investigation of the psychiatric patients at that time:

> I had some reassurance that these patients were treated as if they had SARS. So that was important to me, to know that even if they had been wrong, they were treated, they were isolated, they were all put on the SARS unit, they were all given an extensive work-up and their history followed. They were aggressively worked up. And so that yes, even if we had been wrong, worst-case scenario, we wouldn't have done anything differently in terms of the staff and the other patients on 7 West or the other patients in the hospital. So that was reassuring, number one, to me. How many consultations of experts do you need? In retrospect, yes, you could say we should have had another consultation, but I had no reason to believe that [Dr.] Bonnie Henry was misinformed. I had no reason to believe that her experts would give her the wrong advice. I had no reason to believe that [Dr.] Don Low would be wrong. I mean, these were the experts. Do I go and yet ask for another expert opinion at a hospital? In retrospect, yes, I guess so, but at the time I thought we had done enough consultation with enough outside experts. And I had the documentation right there. I had emails from [Dr.] Bonnie Henry, I know the work that she went through to make sure that there was full consultation on these things. It is easy in retrospect to look back and piece it together and say, "Oh, yeah, one here, one here, one here …" Blood tests were all positive, now those people really did have SARS, it all made sense. I didn't know at the time.

The Commission accepts that Dr. Mederski, those in charge of the SARS response, and North York General Hospital senior hospital officials told staff what they understood to be the decision of Public Health and the consensus among experts. There is no evidence that the hospital, in communication with its staff, made any attempt to hide SARS cases or to mislead staff.

The Commission also accepts that senior hospital officials, those in charge of the SARS response, and Dr. Mederski sincerely believed the matter had been investigated thoroughly and that there was no risk to hospital staff, other patients or visitors.

But hospital officials, those in charge of the SARS response, and Dr. Mederski dismissed legitimate and in hindsight accurate concerns of nurses about the psychiatric patients. Although hospital officials and Dr. Mederski acted upon the advice of others, the assurances given to staff turned out to be not only wrong but insensitive to legitimate staff concerns. There was nothing to prevent a more open dialogue with front-line workers about what was happening on the psychiatric unit. Concerns raised by the clinical chiefs were addressed immediately, until they were satisfied with the response. Concerns of front-line nurses, on the other hand, were approached differently and seemed to be given less weight and consideration. Although they turned out to be correct, nothing was done to resolve the outstanding and indeed accurate concerns of nurses.

In particular, the Commission finds it unfortunate that Dr. Mederski did not feel that she could openly voice her own views about the psychiatric patients to staff at the meeting of May 13. Whether her concerns about voicing her opinion and disagreeing with what she perceived as a consensus among experts were well founded or not, it reveals a major communication problem in the hospital: that the internal expert at a hospital does not believe she can voice her opinion or express disagreement with outside advice and expertise. The disconnect between what Dr. Mederski reported to the Commission as her views and opinions about these patients at the time and what the hospital, both senior management and staff, believed was a consensus between her and Public Health represents a major breakdown in communication.

Even if, as Dr. Mederski reports, some staff were or should have been aware of her unexpressed opinions about these patients because these patients were being managed and treated as SARS patients, her advocating on behalf of the position of others created distrust, disbelief and anger among the front-line staff.

Why Not Classify as SARS?

Why did the authorities, in hindsight, mistakenly decline to classify these patients as SARS patients?

For Public Health officials, the absence of an epidemiological link was the key factor that prevented them from classifying these patients as SARS. Although the patients had clinical symptoms compatible with SARS, and although the nurses and doctors who treated them thought they had SARS, these patients were not formally classified as SARS patients. According to the case definition, if someone with SARS symptoms had been to Hong Kong, that was enough to classify them as SARS, but it was not enough if they had been at a Toronto hospital with SARS patients. As one physician told the Commission regarding Patient No. 2:

> We didn't have a test that we could use to say this person has SARS and this person doesn't. So, what has been devised and implemented by Public Health essentially were a cluster of signs, symptoms and epidemiology that would sort of label someone as probable SARS or definite SARS, and there's whole different categories. I don't think we and they were necessarily always right. We thought certain patients had SARS, but we are looking at the clinical scenario. If they didn't strictly meet the definition because, for example, they couldn't trace an epidemiologic link back to someone with SARS, then they were not SARS, according to their definition. But, clinically, we thought that she [Patient No. 2] had SARS.

The problem was that these patients were not classified as suspect or probable SARS cases because there was no known epilink. Even today, no one has been able to identify how and from where the psychiatric patients contracted SARS. As one expert described the problem:

> As you know, these psychiatric patients had fever onset on the 18th of April, another with the onset on the 17th of April and then a third with, I think, an onset not until early May. But you could argue right there that if those had been recognized to have been SARS right away, there should have been red alerts that there was something going on in this hospital. But the big reason they were not recognized is because it was not sensed that they had had any contact with other SARS patients. We still don't know where they had that contact.

But many staff recognized the frailty of relying on the epilink: just because you did not know the link did not mean one did not exist. This overreliance on the epilink was difficult to understand. Staff working with these patients saw that they were being treated as SARS. They knew the clinicians considered these cases to be SARS. Yet they were repeatedly told that SARS had been ruled out. As one physician said, they were told that the patients were not SARS "with conviction."

Faced with contradictions between what they were being officially told and what they saw and believed from working on the front lines, many staff worried that they weren't being given the full story and that their fears were being overlooked. As one health worker told the Commission:

> So we felt a big cover-up was done at this time. [They] were saying there was no epilink, we were trying to say psychiatric patients are not good historians. Who knows where they were, who knows anything? But they were still saying they were definitely atypical pneumonias. And you know what, in all my years of nursing, I never saw three psychiatric patients get atypical pneumonia so bad that one needed a tracheotomy – it just doesn't happen.

The failure to classify the psychiatric patients as suspect or probable SARS was not the result of any scheme to minimize new SARS cases of or any cover-up on the part of Public Health, experts or hospital officials. Rather, it was a strict application of the case definition at the time, which we now know relied too heavily on the need for an epilink before a case could be classified as SARS.

Communication Breakdown

All three of these psychiatric patients were classified as persons under investigation for SARS. Patient No. 1 remained under investigation until May 16, at which time he was classified as "does not meet case definition" and his Toronto Public Health file was closed. Between April 21 and May 16, Public Health monitored his symptoms and those of his contacts.

Both Patient No. 2 and Patient No. 3 remained under investigation throughout May and were never "ruled out" as SARS. Both remained on the SARS unit through May. Patient No. 2 was discharged on May 23, while Patient No. 3 remained in hospital until June 12. During their admission, Patients No. 2 and No. 3 were both critically ill. Throughout their admission to hospital, their symptoms were monitored daily by Toronto Public Health, and their contacts were also identified and monitored.

Staff were told it was not SARS, but there was no explanation provided beyond "other respiratory illness." What did that mean? How could they rule out SARS? By May 12, Patient No. 3's condition was "critical." Patient No. 2 had undergone an emergency life-saving procedure on April 30. There was no clear diagnosis for either patient. No one knew what they had. So how could anyone say the psychiatric patients did not have SARS?

As was seen in the case of the ill staff in April, the classification for Public Health purposes took on an importance and meaning that was misleading and that diminished the index of suspicion at North York General Hospital. Because these cases did not fit into the defined categories of suspect or probable due to the absence of an epilink, they were mistakenly taken to mean "not SARS," when in fact no one could rule SARS out.

An investigation by the North York General Hospital Joint Health and Safety Committee post-SARS reported:

> TPH [Toronto Public Health] did investigate these cases and declared that they were not SARS but nevertheless did not explain why they had respiratory symptoms.[577]

But did Public Health rule them out as SARS? Or was there yet again a miscommunication and misunderstanding about the meaning of Public Health's categorization of the cases and about the possibility that they could nonetheless be SARS cases? Was it clear to hospital officials what a classification of person under investigation meant? When asked about the practical implications of a person under investigation classification, Dr. Berall, the co-chair of the SARS Management Committee, said:

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[577] North York General Hospital, Joint Health Safety Committee, Report, p. 38. The Commission notes that although this was what was communicated to staff and was the understanding of the hospital and staff within the hospital, the Commission found no document by Toronto Public Health stating that these patients were "not SARS" and, as noted in this section, Toronto Public Health told the Commission that it did not say the patients were "not SARS."

Question: How did it work that on 7 West it was determined [Update 39, May 14th] by Toronto Public Health and Health Canada that the two 7 West cases mentioned previously were, do not meet the criteria for SARS? However, they are still listed as persons under investigation. What did that signify? That they weren't out of the woods yet?

Dr. Berall: I think it signifies that they didn't yet have a diagnosis that was definitive but they were felt not to be SARS. So they still have undiagnosed, I don't know the answer to that question since I wasn't involved in that. They were still, they didn't meet the criteria for SARS, but they were still not diagnosed as to the underlying cause. But I don't know how long it takes to get a legionnella sample back, but I understand it takes some time. Microplasma is a little faster. Some of the virology can take a while. Some virology can take weeks, so it become an issue of how do you make a diagnosis. You can have pretty much every patient with pneumonia as a PUI until you get your diagnosis.

Question: And would, they're still listed as persons under investigation, does that signify that Toronto Public Health and Health Canada are still involved?

Dr. Berall: I don't know the answer to that question.

Question: They're saying, they don't meet the criteria for SARS, however they are still listed as persons under investigation. Is that listing by Public Health or the hospital?

Dr. Berall: I actually don't know that. If there were a further development, there would be a discussion with Public Health and if they were cleared off the list, there would be a discussion with Public Health. So they were still kept up to date anyway. Any case that was discussed with them was followed up on.

But the "person under investigation" label did not signify that SARS had been ruled out. It was simply a technical classification that slotted the patient into a predefined category. It was wrong to take this as a declaration that the patients did not have

SARS. In the case of the psychiatric patients, they were slotted into the category of persons under investigation, Category 2, because there was no epilink.

Dr. Bonnie Henry, who was the Public Health physician most involved with the psychiatric patients, said that Public Health never ruled out SARS:

Question:	There is a note on the 8th saying, "Toronto Public Health has ruled out SARS."
Dr. Henry:	Toronto Public Health never ruled out SARS in that case [Patient No. 3].

Whatever words were used to describe these cases, Dr. Henry told the Commission that Public Health never suggested that this meant that everything was okay and that SARS was gone:

> Most of us were in the room at the Courtyard Marriott on Yonge Street. [Dr.] Barb Mederski was there by teleconference[578] because she wasn't able to make it down, so [Dr.] Allison McGeer, [Dr.] Andy Simor, [Dr.] Mary Vearncombe, [Dr.] Shirley Paton, there was a bunch of us there and we presented the case, everybody who had worked with the core group of people that had been involved. There were other people there, I don't recall who. So we went around the room and asked what people thought, what they thought was the answer with the psych cluster. I asked individually, every person, do you think this is SARS, and around the room, unanimously they said no. And we put a plan in place to do testing for other things to try and get a better handle on it. And they recommended environmental testing to be done as well. So after that, I reported this back to Barbara [Dr. Mederski] and said yes, in this specific case, the consensus of the clinical people is it doesn't seem to be consistent with what we are seeing with SARS. I did say to her, these three people probably didn't have the disease. I am not one who talks in they did or they didn't probably didn't have SARS, but we managed them as if they were. At that point, it was a moot point, and she told me that the psych nurses were, she said to me a couple of days later, that was before I went to China, so it is around that period of time, she said the psych

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[578] This is a reference to the May 8 teleconference, during which the psychiatric patients were discussed, as described above.

> nurses are really on my case and they want to know that it's safe to still work on the psych ward. And I said that we have no reason to believe that there is any risk on the psych ward now, or you know, this may not have been SARS in the first place. I would reassure them, but they are safe to work on the psych ward now. The patients weren't there anymore, there is nobody else ill. And subsequently I have heard that that has been translated into, Toronto Public Health told us that everything is fine, which is absolutely not what I said. And I had passed on that the consensus was that this probably wasn't SARS and that yes, I felt that the psych ward was a safe place to work.

Dr. Barbara Yaffe, Director of Communicable Disease Control and Associate Medical Officer of Health for Toronto Public Health, explained to the Commission that as far as Public Health was concerned, "person under investigation" (PUI) did not mean "not SARS." She said:

> Dr. Yaffe: You know, I think it has to do with how people interpret PUI. To me somebody, as I explained before, PUI didn't mean they didn't have SARS.
>
> Question: Right.
>
> Dr. Yaffe: It just meant they didn't meet the case definition.
>
> Question: At that time?
>
> Dr. Yaffe: Yes, but we were treating as if they did.
>
> Question: Am I right, I'm getting the impression that others may be taking it as PUI is not SARS?
>
> Dr. Yaffe: Yes, but we never said that, I certainly never said that.
>
> Question: Did it ever get to the point where Toronto Public Health was saying it is not SARS?

Dr. Yaffe:	Yes, we did have cases where we called them, DNM:[579] do not meet.
Question:	And that meant not SARS?
Dr. Yaffe:	Not SARS.
Question:	But I assume before you got to that level your threshold …
Dr. Yaffe:	We had to be pretty sure.
Question:	… it was pretty high.
Dr. Yaffe:	Absolutely.

But this is not the message that hospital officials understood. Hospital officials sincerely believed that Public Health had cleared these cases as "non SARS." As Dr. Keith Rose told the Commission when asked about the decision making around these patients, particularly after the third patient was under investigation:

> We took this patient very seriously. When I have a really serious problem in the hospital, I am not going to rely on one individual to make the decision, particularly on an area like this which is so grey. So, expertise from Toronto Public Health and whomever they deemed appropriate to call in was welcomed. And so if I have experts telling me that this is not SARS then I believe them.

As noted above, whatever the precise language used by Public Health and others, whether it was "not SARS," "not likely SARS" or "probably not SARS," it is clear that North York General Hospital sincerely believed that the consensus among experts was that these patients did not have not SARS.

The other problem was the lack of clarity around the role of Public Health and the meaning of a classification of a patient as a person under investigation. To Public

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[579] Patients No. 2 and No. 3 were never classified as DNM, does not meet case definition. They remained classified as PUI, persons under investigation, until after May 23, 2003, when they were retrospectively classified as probable SARS cases. Patient #1 was classified as PUI from April 21, 2003, until May 16, 2003, when he was classified as DNM and his case was closed. He was retrospectively classified as a probable SARS case, after May 23, 2003.

Health, a designation of a patient as a person under investigation did not rule out SARS. But that was not clear at the time and unfortunately that was not made clear to the staff at North York General, who were told with confidence that these cases had been cleared by Public Health and others and that the psychiatric patients did not have SARS.

The importance of clear communication and a clear understanding of respective roles and responsibilities is obvious in the story of the psychiatric patients. Public Health felt that they were providing sound advice with the right blend of caution. Although the patients were not classified or called SARS, they were treated as persons under investigation and were investigated and monitored. Outside experts who provided opinions, gave their best, good faith opinions based on their knowledge and understanding of SARS at the time. They understood that the patients were being managed as if they were SARS and that they posed no risk to others. The hospital, in good faith, accepted the opinions of outside experts and sincerely believed that SARS had been ruled out. They repeated this message to staff and tried to convince staff they were safe. They spoke with conviction. They too believed that there was no risk to staff, patients or visitors and that the matter had been thoroughly investigated and all precautions taken.

There is no evidence of any hidden motive underlying the actions of Public Health officials, outside experts who consulted on the patients, or the hospital. The decisions and actions were based on the best medical understanding at the time, constrained by the rigid requirement for a known epilink before SARS could be diagnosed. As noted below, there is no evidence that these decisions were tainted by any motive to minimize SARS for economic or political reasons.

The problem was not one of intention. The Commission accepts that everyone involved was doing what they thought was right. The problem was one of communication. Staff were given assurances and told the patients did not have SARS with a confidence that was not warranted in the circumstances. The message given to staff was that there were no new cases of SARS and that SARS was over. As one expert told the Commission:

> They probably had community acquired pneumonia, but we couldn't rule out that they possibly could have SARS, so we would just manage them as if they did. And in hindsight, so what was wrong with doing that? Well, I think what was wrong is that if we had included them as SARS, maybe we would have searched harder for where they got it from and that might have helped us. It might have provided more fodder for the argument that we still had a problem at North York.

The problem was not that the expert opinions or message to staff were wrong. As Toronto Public Health told the Commission, they investigated approximately 2,000 cases that turned out not to have SARS. It is not unimaginable that experts would get some cases wrong. And, as Public Health points out, they got many cases right. There was no quick and easy test for SARS. It was a difficult disease to diagnose. It was a new disease about which not everything was known. The problem was that the opinions expressed conveyed a certainty about these cases that was not available at the time, absent a timely and reliable test that could rule out SARS. It was not that an epilink did not exist, it was that it was not known. Just because no one could say how these patients might have got SARS did not eliminate the possibility that they could have been exposed to SARS in a hospital that had SARS cases.

One of the lessons from SARS is that, especially in the case of a new infectious disease, it is dangerous to believe that anyone has all the answers. As one physician said:

> I think what SARS did is it humbled us and it also made us realize that even when we think we know everything, we don't. And that diseases can – the changing nature of disease emerges gradually, and we have to be very attuned to the clues that come from the ground up, not necessarily from the top to the bottom, so I think humility makes the better nurse and doctor. I would always err on the side of caution.

It is especially dangerous and unfair to front-line staff to provide reassurance or to dismiss or placate their concerns where there is not scientific certainty and where much remains unknown. As one infectious disease expert so eloquently said:

> The worst kind of reassurance is false reassurance.

Role of Public Health, Outside Experts and the Hospital

Throughout April and May, North York General Hospital repeatedly went to Public Health and outside experts, through the Provincial Operations Centre, for advice on the psychiatric patients. In good faith, the hospital and infection control turned to Public Health and outside experts for answers. But what was the role of Public Health, the Provincial Operations Centre and outside experts? Were they simply classifying cases for reporting purposes? Were they helping to diagnose patients, with implications for treatment? Who had ultimate responsibility for managing the outbreak and for containment measures in the hospital? What was the hospital's role? Who was making the decisions about these patients and about measures that were being taken to ensure the safety of other patients and staff in the hospital? Who was in charge of what? Who had responsibility for what, including responsibility for decisions and for the outcome and impact of those decisions?

Dr. Barbara Yaffe described the role of Public Health as follows:

> I think the clinician is responsible for the patient. The clinician is responsible for the diagnosis of the individual patient. And if, hypothetically, we said we don't think it is something and they think it is, if they think it is, they should deal it, that's their responsibility as a licensed physician. But in this instance, as I said before, we called these people [the psychiatric patients] persons under investigation. We didn't say they don't meet the case definition. That's a different category. We had a lot of people called DNM, does not meet. They were people we were seriously investigating. Now, they didn't have the epilink and the clinical picture is so nonspecific, it's not helpful, and the lab tests were not helpful. It was a very complicated, unclear situation, which is why we brought in lots of people, consultants, locally and from Health Canada, and from CDC and NIOSH, and everybody was consistently saying, it doesn't look like SARS. But we still said, no, we're not making them DNMs. We're not saying they don't meet. We're just saying we don't feel they clearly meet the case definition to put them on a line list and report them in statistical ways. But they were still supposed to be treated as if they had SARS, which is what we said with all PUIs, and should be the standard anyway at that point with anybody with a febrile respiratory illness. At that point, I think we were not the final authority.

But for many in the hospital it seemed unclear who was making decisions about cases and who was the final authority. One physician told the Commission:

> And I couldn't figure out whether it was [Dr.] Barb's [Mederski's] decision or CDC, and you talk to [Dr.] Glen [Berall] and you talk to Barb [Dr. Mederski], and you know we've been given our directives. Now to be fair to everyone, we treated them like SARS. We isolated them, we got them off the ward. But there's some sense that the staff were left in jeopardy when they weren't told the true diagnosis, because we had patients all over the place who weren't wearing masks.

Another physician who treated one of the psychiatric patients told the Commission:

> There was a whole behind-the-scenes process going on where I believe that she [Dr. Mederski] was taking the cases that were coming in and having them reviewed by at least some form of a committee and I do not know who sat on that committee. But I know that Dr. Don Low was there and they were very rigidly applying the WHO criteria. So these patients were sometimes initially being classified, then declassified and then subsequently reclassified, depending on what results came back.

Even those working within the SARS response system at the hospital were unclear as to the roles of Public Health and the hospital. One member of the SARS Management Committee, when asked who made the decision on how to classify SARS patients, responded, "Probably Dr. Mederski, I don't know."

Dr. Mederski told the Commission that she felt that she had to accept the decisions of outside experts and adjudicators. With respect to the first two psychiatric patients, whose cases were adjudicated on April 28, she thought that Dr. Low was the decision maker, not Public Health. She said:

> I want to make it clear for the record, that that meeting of the 28th, it was not Bonnie Henry's opinion, Bonnie Henry was the scribe, and I would like to make that clear, it was Dr. Low's opinion that it was not SARS, she [Dr. Henry] was very much neutral and waiting for input.

Dr. Low did not have a formal employment relationship with North York General or with Public Health. He was an available expert who was generous with his time and his expertise. He was not in charge at either the Public Health level or the hospital. He was not involved in the day-to-day running of the outbreak at North York General.

One of the members of the SARS Management Committee, when asked about the response to staff concerns about the psychiatric patients, said:

> I think staff were very anxious but we could only go with what the Public Health ruling was.

Dr. Berall, the chair of the SARS Task Force, when asked about the classification of the third psychiatric patient as "unlikely SARS," said:

> Question: What information would be given about that classification of unlikely SARS?

Dr. Berall: We may not have had any further discussion about it than that. You know, the patient was discussed with Toronto Public Health. They're the ones who considered the information, not us. It's redundant for us as non-experts, without that being our function, to consider all the information. We're not going to make a determination on it. But to hear that Public Health has considered it, discussed it with the infectious diseases specialist and made a determination and we're given the information that they're not likely SARS.

Even Dr. Mederski, the infectious disease specialist involved with all three of these cases, felt that she had to support the opinions of those who said these cases were not SARS. Dr. Mederski told the Commission that she did not agree with the conclusion that these patients did not have SARS. Toronto Public Health records dated May 7 report that Dr. Mederski had previously described Patient No. 2 as a patient "who developed SARS." When Dr. Mederski spoke to a Public Health nurse about Patient No. 1, Dr. Mederski said she was "diagnosing client as probable SARS although no epilink." Dr. Mederski told the Commission that at the end of April she worried that these patients might have SARS, so she decided to try to get testing done on the patients:

Question: So when you have an adjudication and the bottom line by the adjudicators is no, not SARS, not probable SARS, and you feel you don't agree with that, is there anything left for you at that point? You don't agree, they have come to this conclusion. You still have to see patients, you still have issues about how to manage their treatment, but what's left for you as the treating physician at that point?

Dr. Mederski: To get a definitive answer with the SARS PCR tests. This is where it became really incumbent to get these results. That's when I started pressuring my colleagues, as I said, at Sunnybrook to do us a favour and I managed to do that through the actual physician that was doing these tests. She was actually materially involved with the tests themselves. And again there was the lag phase in reporting them back because they batch them. These were the first patient samples that I gave, including [Health Care Worker No. 4]. I could give them, I think I could submit three, and those were the ones I gave, [Health Care Worker No. 4, Patient

> No. 1], and I am not sure who the third one was, it could have been [Patient No. 2], but I just can't recall. Because I had really no other way of proving it when there was no epilink.

Dr. Mederski told the Commission that although she had her own views about the psychiatric patients, she felt put down and chastised when communicating her concerns outside the hospital, but that she continued to discuss the cases and express concerns with colleagues. She said that by May 9, she was firm in her mind that these patients had SARS and she was beginning to feel desperate:

> Yes, and I have to think that, I think by this point I was getting rather desperate and I didn't care anymore about what anybody else thought, if you don't mind me putting it that way. Because I was just so desperate that it didn't matter what I said, everybody was constantly telling me differently and it kind of had to be, do what you can do, under the circumstances and just keep on at it. And in fairness, in fairness, you know I was exhausted and I was just hanging in there.

But, as noted earlier, when Dr. Mederski participated in the meeting with psychiatry staff, she did not voice her own personal beliefs about the cases but felt she had to advocate the position of the experts in front of staff:

> You have to kind of keep the front. You can't look like you're totally out to lunch, otherwise your own credibility gets undermined. If you start saying, I think this, they don't think so, but they have the final say, your own credibility really looks pretty bad at that point. Nobody's going to believe you about anything after that. And so I think that I would probably say, this has been my approach, this is what we're doing with these patients, because I can tell you that the ambience of the hospital would be that it's better to err on the side of caution anyway, so go ahead and do that. Nobody would fault you for that. Nobody would say, oh well, you know, you're overreacting. Even if they thought so, but they wouldn't. They would be always a preference to be the other way. And then to reconcile that with what the ultimate adjudications were. And so there was a lot of skepticism in the hospital amongst the staff about these adjudications.
>
> Now these staff that were skeptical weren't sitting at these meetings unfortunately because these meetings tend to take in the hierarchy who

> don't see these patients in the first place. So I did have a bit of a challenge to try to explain to [Dr.] Keith Rose and to [Dr.] David Baron, who were really the main physicians involved, that this is how I feel, but this is what they're saying. And in fact, I would have to sometimes be very forceful to say, Public Health investigated this and this is what they feel. And actually, almost take their side because I'm representing now more Public Health in some ways and the infectious disease specialists behind them who are making these decisions than I am myself. I'm now trying to be in allegiance with them.
>
> Does that make sense? I'm really caught but I have to tell you at some stage, especially if there was a lot of what I thought was unwarranted concern in the hospital, I have to use the word "hysteria," or some people were getting really, really worried. It almost helped to say, look, something's going on but the world isn't falling flat, so they feel that the very best experience and they've got the whole city to look at, that their experience says this is not likely. Maybe they're right, but this is what we've done. Try to tell people they're still safe because we're still perceiving to be safe about managing these patients, but acknowledging that Public Health has a say with these experts behind Public Health backing them up.
>
> Because don't forget, these same experts were on television every day, and they were all saying, there's nothing going on, there's nothing going, or there is something going on, there is something going on. So the media and the public and the physicians were hearing this and they heard what they said. They didn't hear all the stuff that was going on at our place and if somebody from our end was going to start saying differently, it wouldn't look very good.

Dr. Mederski said that she felt that the only way she had credibility, even when dealing with hospital officials, was if she had consulted Public Health:

> … as we were going on, every day would be an update day, and every day I would be sitting there going, well I think these are interesting cases, they can be SARS, but there is no epilink and I've run this by Public Health, so before I opened my mouth, I would always preface by saying, I have already spoken to Public Health, because that would be the only way I would have some credibility at the table. And then I would basically say, this is what I thought, this is what they felt, here we are.

When asked if it was a case of having to defer to higher expertise, Dr. Mederski said:

> I had to because the one thing that couldn't happen was that there was going to be, Mederski says this, I say this, the rest of the hospital says that, and have the hospital at odds. It would cause a lot of chaos at the administration level and that became a frightful thing to me. I felt very, very nervous by the time May rolled around as to my position and that of what was the common parlance at the time and when the hospital would consistently get the expertise of [Dr.] Don Low and other people who said otherwise, who was Mederski to say differently. This was my deep frustration.

When Dr. Mederski was asked by the Commission if, in the face of this frustration, she abandoned her view or desisted from expressing her view, she said:

> I became less vocal internally for sure as time went on, meaning in the hospital itself, and I didn't talk to too many of my colleagues at this point. The only person I actually spoke to at any length was [name of doctor], more on the scientific aspects of the disease and anything new that was happening in the world and what was happening in China and what was the information that was going to help us make more diagnoses. But I felt that I had an ear from this outside group and therefore I had an outlet that I could share it with, my frustrations, my feelings and my opinions. And also [name of doctor], I shared with him some of these cases and I felt that he had my ear, that he listened to what I had to say and wasn't going to be dismissive, so my only interactions had been the Ministry of Health, [Dr.] Don Low, [Dr.] Bonnie Henry and all the internal people at Toronto. So I ultimately did what I did with these patients clinically, but as time will show, as the month of May rolled on I started to question the later cases as to what they might be and, we'll get to that, I'm sure. So that did have an interference with my way of thinking, but from a clinical point of view I would still continue to view the fact that if something came in we continued to treat them as a respiratory case that needed isolation or protection or respiratory precautions, I wouldn't necessarily say isolation in the negative pressure way.

When Dr. Mederski was asked about her concerns of creating chaos within the administration, she said:

> Well, I am sitting around a SARS Task Force meeting and I have [Dr.] Keith Rose, and I have [Dr.] David Baron and [Dr.] Stan Feinberg and others, and I have the infection control nurses and so on, and there is nursing representatives and I am going to say, I think they're crazy bringing in Public Health/Don Low, but I believe that I am right. In the beginning I would have alluded to that, but in the end I would have eventually got softer and softer, in my vocal opinions, because there has to be a tabulation of an opinion. There has to be an action and a reaction on these memos. The hospital had to have some direction and I wasn't the one providing that direction, I was only providing feedback, which would eventually maybe have some impact on the direction. If I was completely off to left field, one of two things would happen, I would either be told to go home, which I was really afraid might happen, or, because my clinical judgment is so far off, and therefore I wouldn't be able to take care of these patients that I felt very strongly that I had to, because I felt that if I didn't, others would miss it. So there is a bit of arrogance there, but that's how I felt. So, no, I wouldn't have desisted from looking after patients and wanting to see more cases. In fact, I felt even more strongly that I should see patients, as many as I could, to get a better feeling of what's happening out there in the community, of wanting to find out what's happening with this disease. So I was really keen to continue seeing patients and deal with them. But when came to it actually verbalizing my opinion, I didn't know what to say anymore at one point. I just didn't know how much I could say beyond what I had already done. You know, get people in, adjudicate, have an opinion and that's it.

Dr. Mederski also said by this time she was overworked, ill and exhausted. She said:

> … but at the time I was feeling progressively more frustrated and progressively more, actually concerned about my own ability to make a diagnosis too, because there comes a point when you are so exhausted and I haven't mentioned this to you, but I think for the record it should be that I was in a wheelchair by this point, I was in such health distress with my knee, that I was functioning on a thread. And you sometimes wonder if all that together, and the exhaustion of being up for 24 hours a day for four months doesn't finally addle your brain a little bit, so you do start to wonder when you have experts telling you otherwise.
>
> The thing that kept me going was the fact that my colleagues who were on these teleconferences and the outside voices tended to agree with me,

> from what I had shared with them. So that was what sort of kept me feeling that, I always felt very strongly about my clinical expertise, always, for many, many years. So I usually belabour a case, I usually take an extreme time, longer than average, I do it with some thought. And that's why I felt that I wasn't too far off. Anyway, that's only editorial.

Hospital officials told the Commission that they were unaware that Dr. Mederski privately believed these cases were SARS. Both Dr. Rose and Dr. Berall report that if Dr. Mederski disagreed with the conclusions of Public Health, they were not aware of this at the time. As Dr. Rose told the Commission:

> My message all along in dealing with Barb [Dr. Mederski] is Barb [Dr. Mederski] was consistent with the recommendations of Public Health, so that they agreed on the diagnosis. And if Barb [Dr. Mederski] had come to me and said, "I don't agree, I think they are wrong," then that would've been an indication for me to do something different. She did not.

Retrospective accounts of the relationship between Dr. Mederski, Public Health, outside expert adjudicators and the hospital differ among all the parties. Public Health did not see themselves as decision makers telling the hospital how to run things. Dr. Mederski thought that she had to bow to the opinions of others, that she could not speak up openly about her views to senior management and staff within the hospital. The hospital's understanding was that the views of Public Health and Dr. Mederski were consistent. They told the Commission that they were unaware that there was a divergence of opinion between Dr. Mederski and the advice from others. Dr. Low was not in charge or accountable at either the Public Health level, the provincial level or the hospital level, yet his opinions took on a weight and consequence and de facto authority that he never imagined. The sheer difference in perception of what was happening during this time reveals the massive communication breakdown that surrounded the psychiatric patients and underscores the importance of clarity in roles and responsibilities of public health, hospital infection control experts, outside experts and senior management within a hospital. It also underscores the need for a system of documenting opinions and concerns regarding a possible infectious disease, so that there can be no confusion at the time, and later, as to who thought what.

Public Health was classifying cases for reporting purposes, there were legal reporting obligations, and hospitals were subject to the power of Public Health to intervene and make orders, should the actions of the hospital put others at risk. That did not mean that Public Health had all the answers.

Strangely, the division of roles and responsibilities between Public Health and the hospital seemed clear when it came to the treatment of the patients. Those physicians interviewed by the Commission all agreed that Public Health decisions about classifying these patients had no impact on medical treatment. Treatment decisions were entirely determined by clinical presentation and by medical decisions of the patient's physicians.

While it is true that the hospital was not involved in making determinations with respect to the formal classification of these patients, it was not without a role to play. The hospital was ultimately responsible for the safety of its staff and patients. If hospital officials and those involved in the SARS response, including Dr. Mederski, had concerns, there was nothing that required them to advocate the formal classification by Public Health. There was nothing that prevented the hospital from acknowledging the possibility that staff fears that these cases may be SARS could be right. And there was nothing that prevented them from consulting their front-line staff and maintaining an open dialogue, even in the face of strong opinions by outside experts. Some of the front-line physicians had definite opinions about these patients, but they weren't asked. The nurses had opinions about these patients, but those opinions were dismissed in the face of the consensus of the experts.

No Front-Line Voice

A number of the physicians who worked with these patients privately believed the patients had SARS. The husband of Patient No. 2 recalled after the emergency tracheotomy, asking one of her treating physicians whether his wife had SARS:

> I asked if my wife had SARS and she said to me, it looks like it, walks like it. I said does my wife have SARS? And she said, yes.

For those physicians providing care for these patients, once SARS was suspected, the formal classification for Public Health purposes was of little concern. Because they did not have a formal test to rely on, they had to rely on their clinical judgment, and they did so and treated the patients as they felt was appropriate.

As one physician told the Commission, in the case of Patient No. 2, that meant treating her as a SARS case:

> I know all the people that I was working with thought she had SARS, or at least we were certainly treating her as if she had SARS. And, in many

> of these cases, to us on the front line, we didn't really care, in a way, because if the patient did have SARS or didn't have SARS, we were treating them the same because we thought they had SARS. We also knew that we couldn't necessarily know for sure. Maybe it would be weeks, months, years later before we'd even know for sure. We didn't have our DNA testing and our biology and serology to look at to say, oh yes, in retrospect this patient definitely did have SARS. We didn't have that. And in fact we didn't have that on a lot of patients, even in retrospect. We had to go by our clinical judgment and from my recollection, clinical judgment at the time was that she had SARS, and we treated her as if she had SARS.

The technical classification of SARS or not SARS did not impact patients' treatment. Some did not even recall reading or being aware of the day-to-day updates regarding the patients' status. These physicians were concerned with the immediacy of providing care for these patients. The impression of others in respect of the patients' classification did not mean much. As the above-quoted physician told the Commission:

> There was a lot of discussion about who had SARS and who didn't. And various people may have been classified as SARS or not SARS on paper, but most of the doctors and nurses had their own feelings about which patients they needed to protect themselves from, in the isolation sense of that expression, and did their own thing.

Another physician who cared for SARS patients agreed that their focus was on caring for the patients and taking precautions to be safe:

> Everything was, this is your impression, it wasn't somebody's else impression. You have to be open-minded. Maybe you think it is SARS, but maybe it is not. It is just a matter of take one day at a time. Watch, see what happens to this patient. Take all the precautions. Look after the patient. Keep them alive …

This physician explained that by the time these patients were being treated on the SARS unit, the official classification had little significance as they focused on their job, saving lives:

> I did not have a discussion that they might not be SARS, with them in the intensive care unit with febrile illness and with chest infiltrates and in respiratory failure. We looked after them, ventilating them, keeping their

> oxygen level to keep them alive, basically. So, SARS or no SARS, it is looking after the patient, making sure that they don't die on us. So we treat everybody the same in the sense that if they have acute respiratory failure, we give them maybe antibiotics, maybe not antibiotics, just in case it's a bacterial infection. There was no specific treatment for SARS anyway. There were things to be used at that time, but if used we don't know whether it works or not. They were treated like somebody with acute respiratory failure, SARS or no SARS … They were all in special control, meaning that they were all isolated, N95 masks, etc., etc., they were all isolated as if they had SARS, whether they had SARS or not, although yes I think we were treating them as though they had SARS and we were doing all the precautions in terms of personal protective devices.

Another physician who worked on the SARS unit with Patient No. 1 explained how, regardless of the official classification, Patient No. 1 was treated as if he was a SARS case:

> He was in isolation, he wasn't on the SARS ward but we were treating him as if [he had SARS] and he was receiving all the antibiotics that he would have had he been considered SARS, so it really wouldn't have changed anything other than his location.

Regardless of what the experts were saying, those working on the unit, including the physicians, knew that something was very wrong. One physician said:

> Dr. Don Low, Toronto Public Health … who were consulting with CDC, and they were in the building, so these were the best experts in the world in our building, making the diagnosis. But they never discussed it with me, nor the nurses. That's the way we saw things unravelling, but it turns out they were wrong and some of us knew it. And there was a real paradox, eventually my attitude had to be, when we became suspicious we started using isolation, we called up infectious diseases, we insisted the patients be transferred, we closed the ward, we washed it twice, against their recommendations, they said no need. We washed the ward twice, and then finally we said we're reopening, we're safe and we're going to go back to business because we're no longer at risk. And fortunately, the staff were superb at wearing the protective gear, unfortunately other patients on the ward were not. Psychiatric patients were quite noncompliant and we were very lucky that we didn't have some further spread.

But other than discussions between colleagues, the observations of front-line physicians were not a key part of the decision-making process. Those physicians who provided care to the psychiatric patients while they were on the SARS unit were not part of the daily meetings within the hospital, and they did not speak directly to Public Health or to officials within the hospital who were making decisions as to how to manage the outbreak. When the adjudication committee came on site to assess the situation with respect to the first two ill psychiatric patients, they did not speak to the front-line nurses and physicians and other care providers who were responsible for their day-to-day care on the SARS unit.

That is not to fault this group of capable and dedicated physicians. They were busy saving lives. However, the result was that the opinions of many of these physicians, highly trained and skilled individuals, were not considered in the mix of expert opinions. There was no system to ensure that their views and their clinical observations were brought to bear on the questions delegated to the adjudicators.

A confusing and contradictory message was sent to those nurses and other health workers who worked with these patients on the SARS unit at North York General Hospital. They were hearing and seeing something different, often from front-line physicians whom they respected and whose opinions they trusted. One nurse who worked with Patient No. 2 recalled that, despite the fact that the hospital updates were saying that this patient did not have SARS, one of the doctors on the unit said she did have SARS:

> I had her about the third day, the doctor says, "I'm sure she's SARS." Because I was having a problem, I can't remember what, but the doctor said, be careful because I'm sure she has SARS. I know for sure that the doctor told me in that room, about the third or fourth day, "I know she's SARS." Now maybe nobody else agreed with the doctor, but [the doctor] said, "I know she's SARS."

Like the physicians, the nurses who worked on the SARS unit with these patients believed that these patients had SARS and knew that whatever official classification these patients were given, they were being handled and treated as if they were SARS cases. As one nurse told the Commission:

> We would treat them as a SARS precaution. And not all the staff in the hospital is aware of that. Because a few people would come and approach me; did you have SARS patients from the psych unit? I said, yes, we get patients from there.

But outside this small circle of nurses and physicians who were involved in the care of these patients, for others in the hospital, the source of information about these patients was a combination of rumour and hospital updates. Rumour said there was SARS on 7 West. Hospital updates said there wasn't.

There seemed to be a lack of connection between what the front-line nurses and doctors saw and what the hospital told its employees. Hospital reports said there had been no new cases since Health Worker No. 4 was confirmed as a case at the end of April. To many, what the hospital told them about these patients was critical, as it meant the difference between SARS is back, be worried, be cautious, be on the lookout, and SARS is not back, SARS is gone. As will be seen later in the report, a physician who saw a nurse on May 21 did not consider her illness to be SARS, because she believed, based on what she had been told through hospital reports, that SARS was gone. When patients on 4 West, the unit that later became the epicentre of the second outbreak, became ill, the flag was not raised for possible SARS because no one was looking for undetected cases of SARS.

But as we now know, it turned out that all three of the psychiatric patients did have SARS. The front-line nurses and the treating doctors were right. The hospital and Toronto Public Health and the outside experts who said they did not have SARS turned out to be wrong.

The problem was that in all the consultations and decision making, there seemed to be no voice from the front lines. Despite the fact that many front-line physicians reported to the Commission that privately and among their colleagues they felt these cases were SARS, those views were not communicated to those in charge of decision making at the hospital. As Dr. Keith Rose told the Commission:

> Nobody had come to me in terms of the other areas around the psychiatry patients, so I think some of them were seen in consult with the critical care physicians and I was not aware. And my door is open, so I should've been aware if there was a concern that we were wrong.

Dr. Rose said he knew that the chief of the psychiatry department was concerned, but that other physicians did not approach him with concerns. He said:

> Certainly Dr. [Brian] Hoffman, the Chief of Psychiatry, was concerned because there were three patients on his floor and a psychiatry floor is not a floor where we usually deal with infectious patients or people that get pneumonia. So, he was very concerned of that association with the

> psychiatry floor. Did other infectious disease specialists approach me, did any of the interns in the hospital? No.

Dr. Berall likewise reported that he was not aware of disagreement by the clinicians and that had he been aware of such disagreement it would have been cause for concern and he would have acted, as he did when the clinical chiefs registered their concerns about the psychiatric patients:

> Question: Did any of the physicians who were treating the patients ever come to you and express to you their own private concerns that these may be SARS patients?
>
> Dr. Berall: No, I wasn't approached by other clinicians treating the patients. The only one that I had discussion with was Dr. Mederski, who was involved in all of these cases.
>
> Question: Do you know to what extent she was talking to the people caring for them?
>
> Dr. Berall: I was under the impression that she was in discussion with them on a continuous and regular basis. And I don't know who was the primary, I don't know who was the MRP, the most responsible physician. It might have been her and it might have been another physician. I don't know the answer to that question.
>
> Question: Did she ever pass on to you, as part of the information, that the physicians who were dealing with them felt that they may have been SARS patients, that they were treating them as SARS patients?
>
> Dr. Berall: I'm not aware of that information. I don't recall her ever saying anything like that. But again, you know, they have the discussion at clinical chiefs, and clinical chiefs raised their concerns and we look into it. So if she had said that to me, my inclination would have been to report it at the SARS Management Team and to ask her to re-discuss it with Public Health and indicate to them we have clinical views here that differ, because whenever that happens, that's what we did.

North York General Hospital placed huge reliance on Dr. Mederski. There was no machinery to ensure that this one crucial "point person" was regularly debriefed and supervised. There was no system to ensure that any relevant concerns she might have from time to time were expressed, considered and addressed by management. The lack of a system to oversee and support this crucial lynchpin in the hospital's SARS response is evident in the lack of clarity around the question of supervision. Dr. Rose said:

> Question: To whom was Dr. Mederski accountable?
>
> Dr. Rose: To whom at the hospital?
>
> Question: Yes.
>
> Dr. Rose: First there was the Chief of Medicine, Dr. David Baron, and then through the Chair of the MAC [Medical Advisory Committee] and then through the Board. From a medical practice, medical quality.
>
> Question: Who was her supervisor?
>
> Dr. Rose: That is difficult to say. Dr. Baron, indirectly, but he wasn't in infectious specialities, so his supervisory capacity would be limited, so he may not be able to assess her medical quality of care, he could assess some other aspects of her practice.

This is not to suggest that disagreement among physicians would be unusual or inappropriate. The problem was that the disagreement of opinion was not brought into the open, so that the differing opinions could be weighed. As Dr. Rose told the Commission:

> In a disease that is unknown, does it surprise me that there might have been people that disagreed? No. Without a blood test, as you've said, we couldn't make a definitive diagnosis. Even with a blood test it was hard to make the diagnosis. But it wouldn't surprise me that one expert might have a different opinion from nine other experts. I was not aware that [Dr.] Barb Mederski was one expert telling nine other experts that they were wrong, or felt that she was right and they were wrong. I was not aware of that. It's always a risk in general in medicine.

The problem with this approach is that it meant that there was a circle of staff with privately held opinions about the psychiatric patients, by nature of the fact that they were caring for these patients. They could make their own decisions about personal protective equipment, vigilance for new SARS cases and relaxing precautions. But the rest of the staff were kept in the dark, because there was no system to ensure that front-line clinical experience was brought to the attention of the ultimate hospital decision makers. As one doctor said:

> I think what was happening at North York and what some of the nurses and doctors were suspicious of was on one side of the spectrum. On the other side, you had the powers that be like Dr. Low and Dr. Mederski who said, we're cool, everything's okay. And that's tricky. So I guess we have to learn from the bottom up and from the top down. You need a feedback loop and a better dissemination of information. Because I believe we will be faced with another serious illness in the not too distant future. Toronto is particularly vulnerable because of our population profile, so avian flu may be our next dreaded epidemic and I'm hoping that we would handle it differently because, again, health care workers, there probably will be a 30 per cent attack rate on them.

No criticism can attach to the front-line physicians who were busy caring for the patients and saving lives. The Commission finds that there was an ineffective process and system to provide a path for communication and consult with the front-line staff who were providing care to these patients. In the end, the patients, the hospital and the public are fortunate that these physicians and health care providers acted on the strength of their professional judgment and that they provided the care in the manner that they did.

SARS After All

The hospital, Public Health, government experts and outside experts, in hindsight, mistakenly declined to classify these patients as SARS, largely due to the absence of an epilink. As summarized in the Naylor Report:

> Between April 20 and May 7, three psychiatric patients developed pneumonia. All had been on the seventh floor of North York General Hospital. One had come back to hospital through the emergency department. He was placed in a waiting area with a mask, but paced constantly and, to the concern of the staff, frequently removed his mask. All three patients were

> isolated and managed as potential SARS cases, although no epidemiological link to other cases could be identified. The assessment team had divergent views as to whether the clinical picture was consistent with SARS – but in the end, chiefly because there were no epidemiological links to known SARS patients and negative laboratory tests, they ruled out a new cluster.[580]

Instead of saying "these psychiatric patients have all the symptoms of SARS, we treat them as SARS patients, they are in a hospital with SARS, let's be cautious and assume they have SARS until proven otherwise," the message to staff was that these cases were not SARS.

The unexplained appearance of this SARS-like cluster of patients, treated by the hospital as if they did have SARS, was a cause of great concern. The degree of concern, the depth of SARS suspicion, is reflected in the high-level consultation with Toronto Public Health and other outside experts. Despite this high level of suspicion, no one ever explained to staff how a cluster of three physically healthy patients in the same unit could come down with atypical pneumonia around the same time. The cluster remained unexplained. And, as noted earlier, the SARS-like illness of the nurses in April also remained unexplained.

Some point to the case of the psychiatric patients and suggest that although they were misidentified, in the end there was no known transmission from these cases to other staff or patients. They argue that the cases were investigated, that precautions were taken on the unit and that the cases were handled as SARS. Even if they had been identified as SARS at the time, nothing could have been done differently.

It is impossible to say in hindsight how things would have been different had the North York General psychiatric patients been identified as SARS or at least as possible SARS to staff. But had the psychiatric patients been identified as SARS, hospital officials may have reconsidered the decision to relax precautions on May 7. It might have caused everyone to look harder for the source and for other possible undetected cases of SARS. The acknowledgment of new SARS cases may have elevated the index of suspicion among staff and physicians. Instead, as May progressed, those nurses and doctors who did not have their own beliefs that SARS was still around, based on their involvement with cases such as the psychiatric patients and the ill health workers in April, believed that there were no new cases of SARS. As will be seen in the case of the outbreak of respiratory illness among patients and health workers on the orthopedic floor, decisions about the use of personal protective equipment and the overall vigilance of staff were impacted by the belief that SARS was gone.

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[580] Naylor Report, p. 39.

The staff would later find out that their suspicion and fears were correct and that the assurances given to them by the hospital were wrong. These psychiatric patients, all three of them, had SARS. To date, the source of infection for the psychiatric patients has not been found. All three patients are listed by Public Health and the Province as probable SARS cases.

The investigation by the Joint Health and Safety Committee at North York General noted in its report:

> As it turned out, all three of these patients did have SARS and no epi-link has ever been established. Even as TPH initially dismissed these cases, they provided no explanation why this cluster of patients had these symptoms to the knowledge of this subcommittee. We believe that the appearance of this cluster was a strong warning that SARS was not contained and it is particularly alarming in light of the fear expressed by the Clinical Chiefs that we had an unexplained cluster.[581]

The SARS Field Investigation into the second outbreak at North York General Hospital made the following findings in respect of the psychiatric patients from 7 West:

> Around the same time in mid April, a cluster of 3 SARS cases appeared on a locked psychiatric unit, 7 W. These 3 patients were never co-roomed. Each of the three did stay in the same isolation room but separated in time by at least several days. Extensive investigation by TPH did not identify any family members or unit staff with SARS symptoms. The first 2 cases (a 34-year-old man and a 50-year-old woman, both admitted from the community) developed SARS symptoms on April 17 and 18, 2003 respectively. Although these 2 individuals did not consistently wear masks, and shared the public telephone on the ward with other patients, only one other patient on the ward came down with SARS. All 3 patients were subsequently found to be SARS-CoV seropositive. They were placed on SARS isolation while the investigation was underway. Case

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[581] North York General Hospital, Joint Health and Safety Committee, p. 39. This is a reference to the concerns registered by the Clinical Chiefs in early May, which is discussed earlier in this section.

> finding on the ward for other unrecognized symptomatic SARS patients only identified a smoker with cough but no fever in late April. CXR was uncertain for an early infiltrate.
>
> Work assignments of mobile hospital workers identified a consultation nurse who saw patients on both 4 W and 7 W during the incubation period of the 4 index cases. However, she had no direct contact with SARS patients and did not consult on roommates of these patients. She did have fever, diarrhea and myalgia in late March and early April 2003 but her convalescent SARS-CoV serology taken 2 months later was negative.
>
> The early cases on the orthopedics and the psychiatry wards were not recognized initially as these patients had no travel history or known contact history. In addition, nosocomial SARS transmission among patients had not yet been reported at NYGH. How SARS was first introduced to 7 W and 4 W remains an unresolved issue.[582]

The psychiatric patients were the second, but not the last, undetected sign that there was unexplained SARS transmission at North York General Hospital. An outbreak was spreading on the 4th floor, an orthopedic floor. However, unlike for the psychiatry patients, the illness on the 4th floor was neither identified within the hospital nor reported to Public Health officials. As precautions were relaxed, the outbreak began to spread throughout the hospital.

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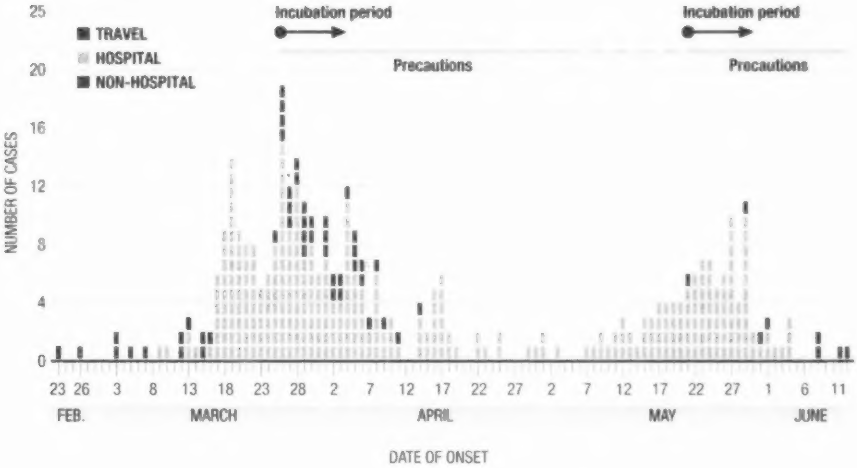
[582] SARS Field Investigation NYGH.

Relaxation of Precautions at North York General Hospital

During April and May, unidentified cases of SARS smoldered at North York General Hospital. When precautions were relaxed in May, SARS spread there quickly, among patients and health workers. Hardest hit were health workers, who worked unknowingly with SARS cases without protective equipment. When precautions came down, SARS spread; when precautions came back up, SARS was contained. The following chart[583] shows a spike in the number of cases, approximately 10 days after the relaxation of precautions:

The Distribution of Cases in the Severe Acute Respiratory Syndrome (SARS) Outbreak in Ontario, Canada, from February 23 to June 12, 2003.



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[583] Dr. Donald Low and Dr. Allison McGeer, "SARS – One Year Later", *New England Journal of Medicine*, 349:25, December 18, 2003.

One of the most controversial issues surrounding the outbreak of SARS at North York General is the question of whether the hospital relaxed precautions too soon. Did the hospital breach existing directives[584] regarding the use of protective equipment? Did it prematurely relax precautions, before the Provincial Operations Centre had given the green light to do so? If the hospital was in compliance with the provincial directives, should it have delayed the relaxation of precautions until a later date, in light of what was happening inside the hospital, with the illness among staff in April and the illness among the psychiatry patients in April and May?

Also from the story of the relaxation of precautions at North York General Hospital emerges a key lesson seen time and time again throughout the story of SARS, not only at North York General Hospital but also at other hospitals: the necessity to ensure that whatever the policy of the day, staff are encouraged and supported to wear the protective equipment and use the approved infection control and worker safety procedures they believe are necessary to protect themselves.

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[584] The Commission, in its second interim report, *SARS and Public Health Legislation*, recommended amendments to the *Health Protection and Promotion Act*, to clarify and strengthen the power to issue directives to hospitals. As the Commission observed:

> Even now that SARS is over, the question remains: under what legal authority were these directives issued and under what authority are they continued and replaced by new directives? Many directives were issued across the board to all hospitals whether they had SARS cases or were even within the Greater Toronto Area. How would those hospitals without SARS cases, remote from the Greater Toronto Area, fit the requirement under s. 22 that a "communicable disease exists or there is an immediate risk of an outbreak of a communicable disease in the health unit"? Legal arguments can be made for and against the authority of the Chief Medical Officer of Health to issue such directives under s. 86 of the *Health Protection and Promotion Act*. It may be that a generous reading of the *Health Protection and Promotion Act* could support the legal authority for the directives issued to hospitals during and after SARS.
>
> There is too much at stake to leave this vital issue to a debate between lawyers about strict and generous interpretations of the *Health Protection and Promotion Act*. The law must be clear. The Chief Medical Officer of Health must have the clear power to issue directives to health care facilities and institutions on issues related to the prevention and control of infectious diseases to ensure a uniform and adequate standard of public health protection within the health care field as a whole. One undetected or unreported case of an infectious disease may have disastrous consequences for the public's health. One health care facility with substandard procedures or poor infection control could be the site where the index patient of a new disease seeks treatment and spreads the deadly virus. The province, through the Chief Medical Officer of Health after appropriate consultation with the appropriate experts and health care communities, must have the authority to direct and ensure an appropriate level of institutional protection against infectious disease. (pp. 152-153)

Also in the Commission's first and second interim reports, it discussed problems with authority, transparency, accountability, and clarity of the directives. See *SARS and Public Health in Ontario*, April 2004; and *SARS and Public Health Legislation*, April 2005.

It is also important to remember that regardless of the hospital's policy in respect of the use of protective equipment, North York General, like most other hospitals in Ontario, had not trained its staff prior to SARS to ensure they understood how to safely use personal protective equipment and were aware of its limitations. And North York General, like most other hospitals in Ontario, did not routinely use N95 respirators and did not have a fit-testing program in place prior to SARS. Consequently, when SARS hit, it had to scramble to train approximately 4,000 staff in the midst of an outbreak.[585] Many health workers from North York General reported to the Commission that they were not properly trained on how to use personal protective equipment and were not fit tested during the first phase of SARS. Whatever protocols were in place with respect to the use of personal protective equipment, staff were not fully protected without proper training, including fit testing as required by law.[586]

Compliance with Provincial Directives

In the aftermath of SARS at North York General Hospital, some question whether the hospital relaxed precautions prematurely and whether it breached provincial directives in doing so. One physician, who did not work at North York General, said to the Commission when speaking about the second outbreak at North York General Hospital:

> … I don't personally know of any other hospital, with the exception of Sick Kids, which was a different issue, who reduced their precautions prior to May 13th.

On the other hand, North York General Hospital has repeatedly asserted it they did not relax precautions prematurely. As Ms. Bonnie Adamson CEO of North York General Hospital said during her presentation at the Commission's public hearings:

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[585] As Ms. Bonnie Adamson said at the Commission's Public Hearings, September 29, 2003:

> Mask fit testing for our staff quickly became a major issue. We had to fit four thousand (4,000) staff, a time-consuming process and we certainly didn't have a lot of time to spare.

[586] *Occupational Health and Safety Act* and the Health Care Regulations 67/93.

> Even as the first SARS crisis appeared to be over, we continued our vigilance. The reason we were so cautious is that we still had SARS patients in our hospital. We could not and did not return to business as usual.[587]

The simple answer, that North York General Hospital did not relax precautions prematurely, emerges from a chronological analysis of the complex, jerry-built system of provincial directives. Directives were put in place by the hard work and dedicated efforts of the members of the Scientific Advisory Committee and the Provincial Operations Centre, who had to step forward and make the directives up as they went along, in a system totally unprepared for a major health emergency such as SARS.

The first provincial directive[588] to hospitals, outlining the required use of protective equipment, was issued March 27, 2003. That directive provided:[589]

> All staff in GTA and Simcoe County hospital emergency departments and clinics to wear protective clothing (gloves, gown, eye protection and mask – N95 or equivalent).[590]

The directive also provided that all patients and individuals accompanying patients entering a hospital emergency department in the GTA must apply a surgical mask prior to entering. It also required that all visitors to a hospital be registered and wear a surgical mask while in the hospital.

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[587] SARS Commission Public Hearings, September 30, 2003.

[588] Prior to this, a letter dated March 18, 2003, from the Chief Medical Officer of Health, Dr. Colin D'Cunha, to all physicians in Ontario, provided:

> Staff precautions:
>
> Health care workers who have direct contact with a **suspect case of SARS** must observe the following:
>
> • Good hand hygiene before and after contact with the patient and after removing gloves
>
> • Wear gloves, gowns, for patient contact
>
> • Wear an occlusive seal, high filtration mask (e.g. TB mask – N95)
>
> • Wear eye protection if spraying or aerosolization of secretions is anticipated
>
> [emphasis in original].

[589] This section contains key portions from a number of directives issued during SARS. The directives are not reproduced in their entirety and portions are summarized. For the entire directive, reference should be made to the actual directives, as cited.

[590] Provincial Directives to all Acute Care Hospitals, dated March 27th, 2003, issued by Dr. James Young, Commissioner of Public Safety, and Dr. Colin D'Cunha, Commissioner of Public Health.

On March 29, 2003, the scope of precautionary measures broadened considerably. Under this directive, all staff in any part of an acute care facility in the Greater Toronto Area were required to wear an N95 respirator and other protective equipment (as outlined in the directive) for direct patient contact. The directive provided:

> In order to contain the spread of SARS (severe acute respiratory syndrome), the Ontario Ministry of Health and Long-Term Care advises that all hospitals in the GTA and Simcoe County must undertake the following procedures **effective immediately:**
>
> 10. Undertake the following precautions for all hospital staff:
>
> *For all staff when in any part of the hospital:*
> - Use frequent hand washing techniques
> - Use an N95 (or equivalent) mask (ensure mask is fit tested)
>
> *For hospital staff who are required to visit a patient care unit:*
> - Use frequent hand washing techniques
> - Use an N95 mask (ensure mask is fit tested)
> - Use an isolation gown
>
> *For direct patient contact:*
> - Use frequent hand washing techniques
> - Use an N95 mask (ensure mask is fit tested)
> - Use an isolation gown
> - Use gloves
> - Use protective eyewear
>
> Masks and gowns may be reused but must be changed:
> - Following contact with a SARS patient
> - When wet or soiled

> Gloves must be changed, hands washed, and eyewear washed with soap and water following each patient contact.[591]

Only essential staff were to go to work, and all staff were to be screened for SARS symptoms prior to entering the hospital. Also at this time, provincial directives restricted visitation, except on compassionate grounds.[592] Visitors who were permitted in the hospital on compassionate grounds had to undergo a symptom clearance evaluation and had to wear a surgical mask at all times while in the hospital.[593]

On April 14, 2003, the requirements for the use of protective equipment were significantly changed, as the Provincial Operations Centre issued revised directives to all acute care hospitals in Ontario. This directive no longer required that N95 respirators be worn by staff in all areas but specified their use in certain areas and/or situations.

The directive required the use a N95 respirator by staff and visitors when entering the room of a patient who had specified respiratory symptoms:

> HCW's [health care workers] should maintain a high index of suspicion when assessing any patients for new onset of fever or respiratory symptoms. Any person developing the following symptoms or signs after admission – cough, unexplained hypoxia, shortness of breath or difficulty breathing – must be treated as follows:
>
> a) Transfer to a single room if available. If a single room is not available, cohort similar case presentations (e.g. congestive heart failure cases with other patients with congestive heart failure) and maintain at least one metre spatial separation between beds. If there is more than one patient in the room, the curtains must remain closed between beds to minimize droplet transmission.
>
> b) Patient activity should be restricted ie. patients should remain in their room with door closed until SARS is ruled out.
>
> c) All visitors and health workers must wear a N95 mask or equivalent when entering the room.

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[591] Directives to GTA/Simcoe County Acute Care Hospitals, March 29th, 2003, issued by the Ministry of Health and Long-Term Care, under the signature of Dr. James Young, Commissioner of Public Safety and Security.

[592] Such as palliative care, critically ill children or visiting a patient whose death may be imminent.

[593] Directives to GTA/Simcoe County Acute Care Hospitals, March 29th, 2003, issued by the Ministry of Health and Long-Term Care, under the signature of Dr. James Young, Commissioner of Public Safety and Security.

d) Where possible, diagnostic and therapeutic procedures (e.g. imaging, hemodialysis) must be done in the patient's room.
c) Patients should be out of the room for essential procedures only and wear a surgical mask during transport.[594]

The April 14 directive also included a number of attachments that further specified precautionary measures. One attachment, titled "Emergency Department Barrier Precautions," provided an algorithm for screening patients and for the use of protective equipment in emergency departments. Based on that, emergency room staff were required to wear N95 respirators and other protective equipment for direct patient contact where a patient:

- fails the SARS Screening Tool, OR
- the SARS screening tool cannot be completed, or
- has fever greater than or equal to 38 C or any history of fever, OR
- has any respiratory symptom …

Also at that time, an attached document titled "Description of Activity for Acute Care Facilities by SARS Category" correlated the level of precautions to the level of a facility. The key changes with respect to the use of protective equipment by staff were:

Level 3 Facility
- N95 mask or equivalent for all staff in the facility.
- Full droplet and contact precautions (gowns, gloves, N95 masks or equivalent, protective eye wear) for ALL direct patient contact

Level 2 Facility
- Full droplet and contact precautions (gowns, gloves, N95 mask or equivalent, protective eye wear) for:
    1. direct patient contact in all area(s) affected by the unprotected exposure
    2. direct patient contact in any area of the hospital with a patient who fails the SARS Screen or has respiratory symptoms suggestive of an infection
    3. for taking care of suspect or probable SARS patients

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[594] Directives to All Ontario Acute Care Hospitals, Directive 03-04, April 14, 2003.

Level 1 Facility

- Full droplet and contact precautions (gowns, gloves, N95 mask or equivalent, protective eye wear) for:
    1. direct patient contact in any area of the hospital with a patient who fails the SARS Screen or has respiratory symptoms suggestive of an infection
    2. for taking care of suspect or probable SARS patients.[595]

Visitors to the emergency department were required to wear surgical masks if accompanying a patient who failed the SARS screening tool, could not complete the screening tool, had a fever greater than or equal to 38°C, or who had respiratory symptoms.[596] Visitors to the room of a patient who had developed cough, unexplained hypoxia, shortness of breath or difficulty breathing were to wear an N95 respirator at all times.[597] Like the use of protective equipment by staff, visitation and the use of protective equipment by visitors were tied to the level of the health care facility. For example, in a Level 3 hospital, visitors were not permitted except for special circumstances,[598] and in such a case the visitor had to follow full droplet and contact precautions. A Level 1 hospital could allow visitors at the hospital's discretion. Visitors had to comply with protective equipment as described above and also had to comply with full droplet and contact protection if visiting a SARS patient.

Ten days before this April 14 directive, on April 4, North York General Hospital had been upgraded to a Level 2 classification, following the identification of three staff members as persons under investigation for SARS. The story of these three health workers is told earlier in this chapter. On April 14, 2003, after 10 days with no evidence of further transmission from these three ill health workers, North York General Hospital was downgraded in terms of SARS risk, from a Level 2 facility to a Level 1 facility.[599]

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[595] Directives to All Ontario Acute Care Hospitals, April 14th, 2003, and Description of Acute Care Facilities by SARS Categories, April 14, 2003.

[596] Directives to All Ontario Acute Care Hospitals, April 14th, 2003, and Description of Acute Care Facilities by SARS Categories, April 14, 2003. Attachment, "Emergency Room Barrier Precautions."

[597] Directives to All Ontario Acute Care Hospitals, April 14th, 2003, and Description of Acute Care Facilities by SARS Categories, April 14, 2003.

[598] Critically ill patient, palliative care patient, labour partner or parents (one at a time) of a child. See Description of Activity for Acute Care Facilities by SARS Category.

[599] NYGH SARS Update #17, April 14, 2003.

As per the directives issued April 14, outlined above, staff were not required to wear N95 respirators or even surgical masks in all areas at all times unless the hospital was classified as a high risk Level 3 facility. Nor were visitors required to wear masks at all times when in all areas of the hospital.

According to North York General policies, as of April 14, 2003, the hospital was still requiring staff to wear N95 respirators when in any part of the hospital.[600] In effect, the hospital was adhering to the more stringent standards for a Level 3 hospital, even though it was classified as a lower-risk, Level 1 facility.[601] To put it simply, North York General Hospital adhered to a higher standard of protection than that required by government directives.

On April 25, 2003, the hospital issued this chart,[602] summarizing the requirement for protective equipment across the hospital:

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[600] SARS Task Force, SARS Precautions For NYGH Staff, April 4, 2003, revised April 10th, 2003. However, it would appear there were exceptions to this. One exception was in the psychiatry unit, where interviewing mentally ill patients while wearing an N95 respirator, and trying to enforce the use of a mask by the patient, posed a challenge for staff and physicians. A memo dated April 23, 2003, from the Chief of Psychiatry to all physicians and senior staff in the department, said that masks could be removed during mental health interviews provided both patient and staff agreed, staff had a degree of trust in the patient whom they had assessed as reliable in answering questions to the screen, staff and patient maintained a 2 metre distance from each other, and staff and patient washed hands with alcohol wash after interview and washed down furniture and other surfaces after each interview. The memo was clear, however, that staff were not required to remove protective equipment for mental health interviews if they were at all uncomfortable.

[601] Droplet and Contact Precautions for NYGH Staff, April 4, 2003, revised April 10, April 16, April 15 and April 25.

[602] Droplet and Contact Precautions for NYGH Staff, April 25th, 2003. The chart, titled "Isolation Precautions," is reproduced to fit the format of the report. The chart also included the following information:

- **High Risk Patients:**
  1. Patients with – Congestive Heat Failure with/without pneumonia
     – Exacerbation of COPD
     – Exacerbation of Asthma
     – Patients with pulmonary infiltrates and presumptive diagnosis (not SARS)

     Note: These patients will have precautions discontinued as per defined criteria – see policy
  2. Patients transferred from a Level 3 hospital
  3. Intubation of high risk patients (for all areas of the Hospital, except the O.R.). All staff involved in the intubation procedure should wear the following: N95 mask, double gown, double gloves, head cover, goggles and face shield.
- **High Risk Areas:**
  1. Front door screening (no booties)

Isolation Precautions	Probable or Suspect SARS or Person Investigation	Emergency Dept.	ICU	High Risk Patients and Areas* (Droplet/Contact)	All Other Patient Care Areas
Hand Hygiene	•	•	•	•	•
N95 Mask	•	•	•	•	•
Gown					
Front and Back	•				
Front Only		•	•	•	If in contact with blood or body fluid
Gloves					
Double	•				
Single		•	•	•	If in contact with blood or body fluid
Face Shield	•				
Goggles	•	•	•		
Shoe Covers	•	•		•	
Head Covers	•	•		•	

The accompanying written policy, revised April 25, 2003, required all staff to wear the N95 respirator when in any part of the hospital. Visitors to the hospital were required to wear a surgical mask at all times while in the hospital.[603]

North York General Hospital continued this level of precautions until May 7, 2003, when it instituted the first relaxation of precautions by the hospital since the beginning of the SARS outbreak. The chronology shows that this measure was taken carefully, and is in line with provincial directives.

On May 7, 2003, the hospital significantly changed its policy in respect of the use of protective equipment. Staff were no longer required to wear N95 respirators in all patient care areas. The only areas that had to continue to follow the use of N95 respi-

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2. Outpatient departments

NOTE: SARS PATIENTS IN OTHER AREAS, e.g. EMERGENCY ROOM ARE TREATED WITH SARS PRECAUTIONS
HIGH RISK PATIENTS IN ANY DEPARTMENT ARE TREATED WITH CONTACT/DROPLET PRECAUTIONS

S:\Policies\Staff\Droplet & Contact Precautions for Staff REV April 25.doctor Created on 03-04-25 5:24 PM Page 5 of 5 [emphasis in original].

[603] SARS Management Team, SARS Visitor Issues – Staff Directives, Issued April 2nd, 2003, revised April 10, 2003.

rators at all times were the emergency department, the intensive care unit, the critical care unit, and the SARS unit. This change in protocol was communicated to staff via an update, which provided:

> Effective immediately, the Mask Policy has been revised and some staff are no longer required to wear masks. Masks are no longer required in common areas including elevators, Cafeteria, etc.
>
> Staff must wear masks in the following areas:
> SARS Unit
> Emergency Department
> ICU/CCU [Intensive Care Unit/Critical Care Unit]
> Outpatient areas/clinics (only in areas that require a staff member to be in direct patient contact), front door screening checkpoints, in rooms where patients are under respiratory or droplet precautions, in other specified areas (eg 7 West)
>
> Staff who are required to wear masks in their work area because they fall into one of the above categories can either pick their mask up at the front door or on their unit. All staff who are still required to wear masks must be fit tested as per provincial directives. Occupational Health will be arranging mask fitting education sessions for all nurse clinicians and any other department who wishes to learn how to properly fit a mask. Please call [contact name and number provided].
>
> Staff who work in areas that are not listed above are not required to wear masks. If you wish to still wear a mask, you may pick one up at the front door on our [your] way in.
>
> All visitors and patients will still be required to wear surgical masks.[604]

The policy changes expanded visitations but required all visitors to wear a surgical mask while in the hospital.

The decision to relax precautions in most areas of the hospital commencing May 7, 2003, was not intended to alter the level of precautions taken in areas that were perceived to be at greater risk of exposure, such as the emergency department. One physician who worked in the emergency department and the intensive care unit explained that this change had no effect on the precautions taken by front line workers who cared for SARS patients or saw patients from off the street:

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[604] NYGH SARS Update #35.

> Whether the entire hospital policy is being reduced and wound down, in the intensive care unit we were still looking after SARS patients at that time. So from that point of view, I didn't even pay attention to what the policy was, you are looking after SARS patients now. You do whatever you have to do, and going into the emergency department on call for medicine is the same thing, you are actually seeing patients fresh off the street. You don't know where they are coming from.
>
> In that sense, we were doing precautions all the time, just because it pertains to my work. So, there is that thing in the background that the hospital policy is reducing the precautions, but I think with my work, working in the emergency department or working in the intensive care unit, it was not relevant whether it [the set of precautions] was used everywhere else or not.

Hospital policy also continued to require the use of droplet and contact precautions by staff working on the SARS unit, providing care to suspect or probable SARS cases, caring for patients who had failed a SARS screen, and caring for patients who had a respiratory illness suggestive of infection, on droplet and contact precautions, or during contamination-prone procedures.[605]

Dr. Berall, co-chair of the SARS Task Force, said that the decision to relax precautions was done after a great deal of thought and discussion. He said that they did not relax precautions until weeks after the April 14, 2003, directive:

> April 14th there was information from the POC [Provincial Operations Centre] on SARS categories that identified the level of precautions

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[605] SARS Management Team, Precautions for Staff Caring for SARS Patients, issued April 23rd, revised April 25, 2003. SARS Task Force, Droplet and Contact Precautions for NYGH Staff. Also note, the Hospital had a separate policy for staff caring for SARS patients. The policy, which set out the precautions to be used when on the unit and when having direct patient contact or entering a patient room, continued to remain in effect on the SARS unit. See NYGH SARS Management Team, Precautions for Staff Caring for SARS Patients, issued April 23rd, 2003, revised April 25, 2003.

> appropriate to each SARS category of institution. And we continued to keep our precautions at a level above the minimum required for the level that we were at. We delayed bringing any relaxation into place and even this relaxation doesn't bring it down to what we could have according to those descriptions but we delayed this because of an abundance of caution.

He told the Commission that the North York General Hospital SARS Management Committee understood that other hospitals had relaxed the use of precautions in all areas of the hospital, and that they were receiving pressure to do the same. Dr. Berall said that despite this pressure, they continued to be cautious:

> By their descriptions and the implications of their descriptions, they were saying that, and other institutions had relaxed before us. In fact, there was some article in the media referring to that factor as well. Although I don't recall the article and the date, I remember seeing it referred to.
>
> So there was a general sense that other institutions were relaxing and we were actually getting requests from our staff, you know, can we relax the precautions somewhat. Is it needed everywhere? Should we only have it where we're facing these issues? And we resisted those sorts of pressures and went slowly. I think it's absolutely ironic that when we were more conservative than most, that SARS II involved North York General to the degree that it did.

The hospital relaxed precautions on May 7, 2003, in accordance with Ministry directives at the time. Even with the changes to precautions on May 7, 2003, North York General Hospital continued to require the use of precautions at a higher level than required by the current directives. As of May 7, there was no requirement in Ministry directives that staff wear protective equipment at all times in areas such as the intensive care unit, critical care unit, emergency room, and outpatient areas and clinics. As noted above, the use of protective equipment outlined in the directives was tied to a hospital's level and related to the screening of patients and their symptoms (that is, failed screen, patient with fever, respiratory symptoms, etc.).

On May 13, 2003, the Provincial Operations Centre again revised the directives to all Ontario acute care facilities. These directives, known as the "new normal," were intended to set out the use of protective equipment in what was believed was now the post-SARS period. These directives marked another significant change in the use of protective equipment. Staff in emergency departments and critical care settings were no longer required to take SARS precautions, including wearing an N95 respirator, for all patient contact. SARS precautions were required only when caring for a suspect or probable case. Precautions such as gowns, gloves, N95 respirators or equivalent and protective eyewear were required when entering a room of a patient who had respiratory symptoms suggestive of an infectious disease, until SARS was ruled out.

The May 13 directives, like the April 14 directives, linked the required level of protection required to the SARS level of the hospital. The key provisions with respect to the use by staff of protective equipment can be summarized as follows:

> Level 3 facility – Staff:
>
> - SARS precautions (gowns, gloves, N95 mask or equivalent, protective eye wear) for all direct patient contact in areas defined by the hospital outbreak investigation team in consultation with local public health unit.
>
> Level 2 facility – Staff
>
> - Full SARS precautions (gowns, gloves, N95 mask or equivalent, protective eye wear) must be used for:
>   1. Direct patient contact in all area(s) affected by the unprotected exposure;
>   2. Direct patient contact in any area of the hospital with a patient who fails the SARS Screening Tool or has respiratory symptoms suggestive of a transmissible respiratory infectious disease; and
>   3. Taking care of PUI, suspect or probable SARS, continued to follow Directive 03-06(R) May 13, 2003, entitled Directives to All Ontario Acute Care Hospitals For High-Risk Procedures in Critical Care Areas During a SARS Outbreak.
>
> Level 0 or 1 facility – Staff
>
> - For care of suspect or probable SARS patients use SARS precautions. Refer to the Directive 03-05(R) April 24, 2003 for information on staff personal protective equipment, SARS patient room requirements and patient care activities.
> - For entry into a room of a patient who has respiratory symptoms (unexplained cough, hypoxia, shortness of breath or difficulty breathing) suggestive of an infectious disease, use precautions (gowns, gloves, N95 mask or equivalent, protective eye wear) until SARS is ruled out.

By May 13, 2003, North York General Hospital no longer required the use of N95 respirators in all patient care areas. As noted above, this was consistent with Ministry directives issued April 14, 2003. However, North York General Hospital policy still required the use of masks in the emergency department, the critical care unit, the intensive care unit, and outpatient clinics and areas where staff had direct patient contact. Staff working on the SARS unit, staff providing care to suspect or probable SARS cases, staff caring for patients who had failed a SARS screen, staff providing care to a patient who had a respiratory illness suggestive of an infection and put on droplet and contact precautions or during contamination-prone procedures, were still required to use droplet and contact precautions as per hospital policy.[606]

May 15, 2003, was the second stage for the relaxation of precautions at North York General Hospital. On that date, the hospital removed the requirement that all staff in the emergency department and the community care centre wear N95 respirators at all times. The policy provided:

> Staff with no contact with patients with respiratory symptoms suggestive of an infectious disease are not required to wear caps, eye shield, masks, gowns, shoe covers or gloves [original in capital letters and in bold].

Also on May 15, 2003, the hospital revised its policy with respect to use of protective equipment by visitors. It no longer required visitors to wear masks in all areas of the hospital. The changes to the policy were outlined to staff in an update issued that day. It provided:

> Visitors and patients will no longer be required to wear a mask while they are in the Hospital unless they fail the screening tool or are in areas under special precautions (Emergency, SARS, ICU/CCU).[607]

The hospital announced the changes in an update to staff, dated Friday, May 16, 2003:

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[606] SARS Task Force, Droplet and Contact Precautions for NYGH Staff. Also note, the hospital had a separate policy for staff caring for SARS patients. The policy, which set out the precautions to be used when on the unit and when having direct patient contact or entering a patient room, continued to remain in effect on the SARS unit. See NYGH SARS Management Team, Precautions for Staff Caring for SARS Patients, issued April 23rd, 2003, revised April 25, 2003, June 5, 2003, and June 16, 2003.

[607] NYGH SARS Update #39. The changes were announced on May 14th, 2003, but were not effective until May 15th, 2003.

> This morning, we talked about moving towards the new normal and the changes that need to be made in order to do that. By next Friday, you should see a number of changes to existing SARS policies.
>
> A significant change that has taken place today is the removal of protective gear in the Emergency Department and Community Care Centre. Triage nurses will continue to wear protective gear during the initial screening of patients in both these departments.
>
> All patients presenting to the Emergency Department (ED) and CCC with respiratory symptoms suggestive of an infectious disease will be placed in specific rooms and all staff in contact with these patients will take the appropriate precautions.
>
> As we move forward with the removal of protective gear, everyone must remember that it is still very important to wash your hands frequently throughout the day.[608]

The hospital continued to screen patients and visitors as they entered the hospital. The May 20, 2003, minutes of the SARS Management Team note that screeners were to remain at the front door of the hospital, at least until July.[609]

The following chart provides an overview of the key Ministry directives with respect to the use of protective equipment by staff, in comparison with hospital policies during April and May 2003:

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[608] N YGH SARS Update #40.

[609] North York General Hospital, SARS Management Team, Minutes of Meeting, May 20, 2003, 0800 hours, Main Boardroom – General Site (referenced in this section as "SARS Management Team, Minutes of Meeting").

DATE	MINISTRY DIRECTIVE	HOSPITAL POLICY	COMPARISON

April 14	Change in Ministry Directives
	• Use N95 respirator when entering room of patient with respiratory symptoms or fever
	• In ER full droplet and contact precautions if patient failed SARS screen, SARS screen could not be completed, fever of 38°C or greater, or has respiratory symptoms
	• Level 1 facility – full droplet and contact precautions for:
	  • Direct patient contact in any area of the hospital with a patient who fails the SARS screen or has respiratory symptoms suggestive of an infection
	  • Taking care of suspect or probable SARS patients
		• No change in hospital policy
		• Staff still required to wear N95 respirators in all patient care areas and in any part of the hospital.
		• Droplet and Contact Precautions for staff working on SARS unit
			• NYGH policy not in contravention of Directives
			• NYGH policy more stringent than Ministry Directives

May 7	No change in directives
	• Remained as they were as of April 14, 2003
		• NYGH Policy changed – first relaxation of precautions
		• Staff no longer required to wear masks in common areas or in all patient care areas
		• Staff must continue to wear masks at all times in:
		  • ER
		  • SARS unit
		  • ICU
		  • CCU
		  • Outpatient areas/clinics where staff member required to have direct patient contact
		  • Front door screening
		  • Rooms where patients under respiratory or droplet precautions
		  • Droplet and Contact Precautions for staff working on the SARS unit
			• NYGH policy not in contravention of Directives
			• NYGH policy still more stringent than Ministry Directives

May 13th	• N95 respirator and SARS precautions no longer required for all patient contact in emergency department and critical care settings • Only required use of SARS precautions, including N95 respirator, when caring for suspect or probable SARS case • Precautions, including an N95 respirator, required when entering a room of a patient with respiratory symptoms suggestive of an infection until SARS is ruled out	No change to NYGH Policy • Remained as it was as of May 7, 2003.	• NYGH policy not in contravention of Directives • NYGH policy remain more stringent than Ministry Directives
May 15	• No change in directives • Remained as they were as were on April 14, 2003	• Staff no longer required to wear PPE in at all times in the emergency dept and Community Care Centre • PPE required for contact with any patient with respiratory symptoms suggestive of an infectious disease • SARS precautions still required when caring for suspect or probable SARS case	• NYGH policy not in contravention of Directives

North York General Hospital policy required the use of a N95 respirator in all areas of the hospital until May 7, 2003. This was almost one month longer than required by provincial directives. Between May 7 and May 15, 2003, the hospital maintained precautions in the emergency department, intensive care unit, critical care unit, SARS unit, and outpatient areas and clinics where staff had direct patient contact, even though provincial directives no longer required the use of protective equipment, in particular the N95 respirator, in those areas at all times. Provincial directives permitted discontinued use of SARS precautions for all direct patient care in the emergency department as of May 13, 2003. North York General relaxed precautions in its emergency department on May 15, 2003.

The Commission finds that North York General Hospital did not breach provincial directives in the relaxation of precautions. On the contrary, North York General

Hospital policy continued to require staff and visitors to use personal protective equipment beyond what was required by Ministry directives.[610]

May 7 Disconnect

Although North York General did not relax precautions before permitted by provincial directives, the question remains: in light of what was happening at North York General during April and May, with ill health workers and the ill psychiatric patients, should the hospital have delayed the relaxation of precautions?

By May 7 the hospital had, within the past 10 days, identified to staff one nurse who had contracted SARS (Health Care Worker No. 4) and three psychiatry patients who were under investigation for SARS. Also, a nurse from the ICU at North York General was in another hospital, also under investigation for SARS (Health Care Worker No. 5). Of particular concern were the ICU nurse and the three psychiatry patients, because if they were SARS, no one knew how they got it, meaning there were one or more unidentified sources of transmission.

On its face, one of the most striking disconnects appears on the date that North York General first relaxed precautions. At 10:45 a.m. on May 7, the hospital announced to staff that they had a third psychiatry patient under investigation for SARS. At 5:00 p.m., the hospital issued an update to staff, advising them that precautions were being relaxed. As noted above, the May 7 update told staff that effective immediately, other than the emergency department, critical care unit, intensive care unit and SARS unit, staff no longer had to wear N95 respirators in all areas of the hospital. The two updates seem to reflect a disconnect between the possible discovery of a new case of SARS in an area not expected to have SARS, with an unknown source of exposure, and the relaxation of precautions throughout the hospital. There was no test that allowed SARS to be ruled out within the hours between the morning announcement and the afternoon update relaxing precautions. Patient No. 3 was still under investigation as of 5:00 p.m., and if she had SARS, no one knew where she got it.[611] And, as noted earlier, as of May 7, Patient No. 1 and Patient No. 2 also remained under investigation and, like Patient No. 3, if they had SARS no one knew there they got it.[612]

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[610] Although, as the Commission notes above, notwithstanding compliance with the directives, if staff were not trained how to safely apply and remove the respirator and were not fit tested, they were not fully protected.

[611] As seen earlier in the report and as seen in the chart outlining the communication in respect of ill patients and staff in April and May, including the ill psychiatric patients, there was considerable uncertainty and confusion about the status of the patients and whether they were or were not SARS.

Dr. Keith Rose was asked by the Commission to explain the apparent disconnect. He said:

> Question: The question really revolves around the SARS update of 5:00 p.m. on the 7th, which is at Tab 34. And the issue really is, was there some sort of a disconnect going on at that particular point in time in as much as you've got, under the mask policy, a step taken towards relaxing the requirement for personal protective equipment, at the same time as there is concern about 7 West, concern about a new case on 7 West and the clinical chiefs now have concerns about there being a cluster.
>
> Dr. Rose: Okay, so let me try and recreate the situation at North York around the beginning of May, May 6th, May 7th. The issue of how much protective equipment was to be worn in the hospital had been discussed for at least three weeks. You'll see varying, as you go through the SARS Task Force Minutes, varying discussion on "was it necessary?" In fact if you go back to the directives as early as the beginning of April, you could, according to directives, discontinue the use of personal protective equipment in non-clinical areas and for direct patient contact except for isolation patients, ER's, triaging areas and ICUs. And our own staff had lots of conversation with their colleagues at other hospitals where precautions had been relaxed. And it's not easy to wear the protective equipment. It's not something people line up to do. You have to do it, you have to do it, okay. So, in many areas of the hospital, this was welcomed.
>
> We did not initiate it until over a month after the directives said we could. We actually went out and canvassed staff. I remember this discussion about, "Are you ready to put down

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[612] A May 7, memo from the Chief of Psychiatry reported to staff that all three patients remained under investigation for SARS.

> protective equipment?" and several areas were not ready to do so in terms of direct patient care. And so we held off in initiating this until the 7th and this had been planned for quite some time, to initiate it at this time. Discussion the previous Friday on how we would do it, a couple of options developed, so it was not an overnight fleeting thought. At the same time, after this decision had been made, the same day, a patient was admitted to the SARS unit from 7 West. So the decision had been already made about protective equipment. So the decision on 7 West was, what we applied to the rest of the hospital in terms of relaxation of precautions, did not apply to 7 West. 7 West was closed to new admission. People continued to wear protective equipment in direct contact with patients and what applied to the rest of the hospital, did not apply to 7 West.
>
> There was a full investigation by [Dr.] Bonnie Henry and Toronto Public Health again. A discussion that [Dr.] Bonnie Henry had with members of the CDC around the psychiatry patients: "Should we have more environmental testing; should we do anything different?" They felt that all three patients weren't SARS patients and in particular this one wasn't. There should be more investigation of the patient around microplasma and some other things and they should get on the patient to see if this patient had another disease. The emphasis we should make is on finding another disease that this patient might have and that they didn't feel environmental testing was warranted at the time, Public Health. And Bonnie [Dr. Henry] had done some work on a conference call with some experts from the CDC.

But, as Dr. Berall pointed out, although precautions were relaxed, there remained an expectation that cases would be handled with precautions, and keeping 7 West as a Level 2 facility meant that precautions remained in place on that unit, the unit where Patient No. 3 became ill. He said:

> This memo has the POC [Provincial Operations Centre] telling us that we don't need to do this. In an abundance of caution, we decide to keep 7 West and 7 North on Level 2. So we're restricting any potential transmission on 7 West and 7 North. But because the POC has said, you don't

> need to do that, that's over what's necessary, and yet we're taking that abundance of caution, we then step down in the rest of the facility where appropriate. Not where there are patients with fever and infectious diseases, not where there are patients who are under respiratory droplet precaution. People who have respiratory droplet issues are being dealt with in isolation like they should be. People in the emerg are being dealt with in isolation like they should be. But, we keep 7 West and 7 North in an abundance of caution in a higher level of protection. We do the heavy cleaning and we consider it to be sort of Level 2 kind of status anyway. And then I have a discussion with the clinical chiefs and they want more than we've done. So we do that.

The decision to relax precautions was welcomed by many. A number of physicians and other health workers interviewed by the Commission said that the relaxation of precautions in most areas of the hospital on May 7, 2003, was a relief. Wearing the mask made working conditions difficult and, at times, unbearable. The May 2 update to staff shows the hospital officials and those in charge of the SARS response aware of apparent pressure from staff, who wondered why precautions were not being relaxed sooner. The update provided:

> There was also discussion about newspaper and television reports that many health care workers at various institutions are now being allowed to relax the use of protective gear in some areas. The SARS Task Force will review our Staff Precautions Policy on Monday. We are gathering information from other Hospitals for comparison.[613]

One health worker described the reaction she and many of her colleagues had when they were finally told they could remove the protective equipment:

> I mean we were literally taking the masks off and we were throwing them because we couldn't breathe in them. And it was hot and everybody was getting ridges across our nose, it was raw across the bridge of our nose.

It is also important to note that provincial officials and public health officials were aware of the cases of ill staff in April and ill psychiatric patients in May. The Provincial Operations Centre did not direct North York General Hospital to move to Level 3, or even Level 2, in late April or early May, as new cases were identified.

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[613] NYGH SARS Update #32.

Instead, it permitted them to remain Level 1, aware of the precautions and directives that were attached to that designation. It required only the psychiatric unit, where the patients under investigation for SARS had been, to go to Level 2 status at the end of April. When the third patient was announced on May 7, it was the hospital that decided to move the unit back to Level 2, as the Provincial Operations Centre had determined that the hospital did not have to change its designation, even on that specific unit.

The hospital's decision to relax precautions, criticized by some in the aftermath of SARS and which as we now know led to the spread of SARS among patients, visitors and staff, was not questioned or challenged at the time by provincial officials. As noted earlier in this chapter, the classification of hospitals did not seem to address the situation where a hospital had cases under investigation for SARS, where there was no known transmission to other patients, visitors or health workers, but where if the cases were SARS, their source of exposure was unknown. The risk of the unknown source of exposure was that it could still be in the hospital, unidentified, waiting to spread to others, when protective equipment was removed. As one health worker said:

> What I want to say is that in terms of the directives, they had directives that went to all hospitals. It wasn't very discrete in terms of how it was done. There were different hospitals that had different circumstances that maybe shouldn't have had the all clear.

North York General was still seeing patients who, although not identified as SARS, could not be ruled out as SARS either. Until those cases were ruled out, the possibility of an unidentified source of exposure remained. And the key thing that prevented them from being identified as SARS was that the epilink could not be found. But what if the epilink could not be found because it was somewhere, unknown, in the hospital, as we now know was the case?

Although everyone agreed that wearing the equipment was difficult and uncomfortable, despite the discomfort and the desire to return to normal, for many staff at North York General Hospital the decision to relax precautions was troubling in light of what had been happening in the hospital. As one nurse said:

> I feel that we were told to take our masks off too soon without having any concrete evidence to why we should be doing that.

One physician said the changes in May that led to different levels of protection between areas of the hospital made little sense:

> As the weeks went into May, things started becoming more lax. Sometime by mid-May, barriers were being dropped … certain wards were deemed wards that you had to be gowned and gloved and masked. Other wards you didn't have to have anything … To start separating wards into different rules when you have no meaningful barrier between those wards and you have free flow of personnel back and forth, how can you designate certain wards to be high risk, and other wards would be free of risk? … From an infection control point of view, it actually makes no sense whatsoever. For example, the 4th floor, the famous 4th floor now, people were told it was no longer a high-risk area, you did not need any more isolation, except when you went into the room of a patient.

By May 7, five health workers and three patients had been investigated for SARS. The contradictory and confusing information about these patients can be summarized in the following chart:

Case	**Communication to Staff**	**Public Health Classification**	**Retrospective Classification**
HCW#1	April 7 – PUI[614] Nothing further reported to staff	PUI[615]	Probable SARS
HCW#2	April 7 – PUI[616] Nothing further reported to staff	PUI DNM (does not meet case definition)[617]	Probable SARS
HCW#3	April 7 – PUI[618] Nothing further reported to staff	PUI DNM (does not meet case definition)[619]	Suspect SARS

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[614] SARS Task Force Steering Committee, Minutes of Meeting, April 7, 2003.

[615] Health Worker No. 1 was admitted to hospital on April 5, 2003. She was classified as a person under investigation (PUI) and remained such until her classification was changed to probable SARS, on June 23, as part of the retrospective review of cases.

[616] SARS Task Force Steering Committee, Minutes of Meeting, April 7, 2003.

[617] Health Worker No. 2 was admitted to hospital on April 4, 2003. She was classified as a person under investigation (PUI) and remained such until May 3, when she was classified as "does not meet case definition." She was retrospectively classified as a probable SARS case, in June 2006.

[618] SARS Task Force Steering Committee, Minutes of Meeting, April 7, 2003.

[619] Health Worker No. 3 was admitted to hospital on April 6, 2003. She was classified as a person under investigation (PUI) and remained such until April 22, when she was classified as "does not meet case definition." She was retrospectively classified as a suspect SARS case, in June 2006.

Case	Communication to Staff	Public Health Classification	Retrospective Classification
HCW#4	April 21 – Not SARS[620] April 22 – Not SARS[621] April 28 – suspect or probable SARS[622]	PUI DNM (does not meet case definition)	Probable SARS
	April 29 – probable SARS[623]	Probable SARS[624]	Probable SARS
HCW#5	May 1 – PUI[625] Nothing further reported to staff	PUI DNM (does not meet case definition)[626]	
Pt#1	April 29 – Probable SARS[627] April 29 – PUI[628] May 7 – under investigation[629] May 8 – reported as having alternate diagnosis[631] May 9 – not SARS[632] May 12 – did not meet criteria for SARS[633] May 13 – Not SARS[634] May 13 – cleared as Non-SARS[635] May 14 – do not meet criteria for SARS, PUI[636]	PUI DNM (does not meet case definition)[630]	Probable SARS

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620. NYGH SARS Update #23, April 21, 2003.
621. SARS Task Force Steering Committee, Minutes of Meeting, April 22, 2003.
622. SARS Task Force Steering Committee, Minutes of Meeting, April 28, 2003.
623. NYGH SARS Update #28, April 29, 2003.
624. Health Worker No. 4 was admitted to hospital April 21. She was initially classified as a person under investigation, then said to be "not SARS" (April 22), then suspect or probable SARS (April 28) and finally probable SARS (April 29). She was ultimately classified as a probable SARS case.
625. SARS Management Team, Minutes of Meeting, May 1, 2003.
626. Health Worker No. 5 was admitted to hospital April 28, 2003. She was classified as a person under investigation (PUI) and remained so classified until May 16, 2003. On May 16, 2003, she was classified as does not meet case definition (DNM). She was retrospectively classified as probable SARS.
627. NYGH SARS Update #28, April 29, 2003.
628. NYGH SARS Update #29, April 29, 2003.
629. May 7, 2003, memorandum from Chief of Psychiatry to Chiefs of Psychiatry GTA Hospitals
630. Memorandum from Chief of Psychiatry NYGH, to All Staff Psychiatrists and Physicians.
631. SARS Management Team, Minutes of Meeting, May 9, 2003.
632. NYGH SARS Update #38, May 12, 2003.
633. Meeting with psychiatry staff, May 13, 2003.
634. Minutes of Mental Health Department SARS Staff Meeting, May 13, 2003.
635. NYGH SARS Update #39, May 14, 2003.
636. Patient No. 1 was classified as a person under investigation from April 21 until May 16. On May 16 he was classified as does not meet case definition (DNM). He was retrospectively classified as probable SARS.

Case	Communication to Staff	Public Health Classification	Retrospective Classification
Pt#2	April 29 – Probable SARS[637] April 29 – PUI[638] April 30 – PUI[639] May 7 – under investigation[640] May 8 – reported as being treated as "probable SARS"[641] May 9 – not SARS[642] May 12 – did not meet criteria for SARS[643] May 13 – Not SARS[644] May 13 – cleared as Non-SARS[645] May 14 – do not meet criteria for SARS, PUI[646]	PUI[647]	Probable SARS

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[637] NYGH SARS Update #28, April 29, 2003.

[638] NYGH SARS Update #29, April 29, 2003.

[639] SARS Management Committee, Minute of Meeting, April 30, 2003.

[640] May 7, 2003, memorandum from Chief of Psychiatry to Chiefs of Psychiatry GTA Hospitals

[641] Memorandum from Chief of Psychiatry NYGH, to All Staff Psychiatrists and Physicians.

[642] SARS Management Team, Minutes of Meeting, May 9, 2003.

[643] NYGH SARS Update #38, May 12, 2003.

[644] Minutes of Meeting with psychiatry staff, May 13, 2003.

[645] Minutes of Mental Health Department SARS Staff Meeting, May 13, 2003.

[646] NYGH SARS Update #39, May 14, 2003.

[647] Patient No. 2 was classified as a person under investigation on April 27, 2003. She remained so classified until she was retrospectively classified as probable SARS.

Case	Communication to Staff	Public Health Classification	Retrospective Classification
Pt#3	May 5 – under investigation[648] May 6 – PUI, unlikely SARS[649] May 7 – under investigation[650] May 8 – under investigation[651] May 9 – not SARS[652] May 12 – did not meet criteria for SARS[653] May 13 – Not SARS[654] May 13 – cleared as Non-SARS[655] May 14 – do not meet criteria for SARS, PUI[656]	PUI[657]	Probable SARS

All of these patients were managed as if they were SARS. Some point to this and question the significance of their misidentification and of the communication to staff that these patients were not SARS. But the problem was that health workers' continued use of personal protective equipment, strict adherence to infection control practices, and heightened awareness for new SARS cases were directly impacted by the understanding that there were no new cases of SARS. Many health workers interviewed by the Commission reported that if they had known there may be new cases of SARS in the hospital, they would have chosen to continue to use personal protective equipment.

As one nurse said to the Commission:

> Question: What did you think about the way the hospital communicated with staff during SARS? Did you feel like you were being told what was going on?

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[648] SARS Management Team, Minutes of Meeting, May 5, 2003.

[649] SARS Management Team, Minutes of Meeting, May 6, 2003

[650] SARS Management Team, Minutes of Meeting, May 7, 2003; May 7, 2003, memorandum from Chief of Psychiatry to Chiefs of Psychiatry GTA Hospitals; and see SARS Update #34, May 7, 2003.

[651] Memorandum from Chief of Psychiatry NYGH, to All Staff Psychiatrists and Physicians.

[652] SARS Management Team, Minutes of Meeting, May 9, 2003.

[653] NYGH SARS Update #38, May 12, 2003.

[654] Meeting with psychiatry staff, May 13, 2003.

[655] Minutes of Mental Health Department SARS Staff Meeting, May 13, 2003.

[656] NYGH SARS Update #39, May 14, 2003.

[657] Patient No. 3 was classified as a person under investigation on May 5, 2003. She remained so classified until she was retrospectively classified as probable SARS.

> Answer: No. If I knew, I would have never taken off the mask and gown.
>
> Question: If you knew that there was still SARS in the hospital?
>
> Answer: Yes.
>
> Question: Even if you had known that it was on another floor, would you have still kept wearing the mask?
>
> Answer: Yes.

Those physicians and nurses who were actively involved in these cases or who were aware of these cases and suspected they might be SARS were able to make informed decisions about the use of protective equipment. They recognized new cases as they came through the door, and they were skeptical when they were told that SARS was over, that there were no new cases of SARS. But this knowledge was not shared across the hospital. Most health workers believed that SARS was gone, and willingly discontinued using protective equipment based on that belief and the understanding that they were safe.

Assurances to staff that SARS was gone or that there were no new cases of SARS turned out to be false. As one infectious disease expert said to the Commission:

> The worst reassurance is false reassurance.

We now know that the reassurances about the psychiatric patients and the ill health workers, although well intended and believed at the time they were given, turned out to be false. And when staff made decisions about protective equipment based on those reassurances and then became ill, it undermined their sense of trust and sense of safety.

The Commission finds no evidence that the May 7 decision to relax precautions in the emergency department at North York General Hospital was made in bad faith or with disregard for patient, visitor and staff safety. The Commission accepts the evidence of senior hospital officials that the decision to relax precautions in May was made under the mistaken belief that there had been no new cases of SARS in the hospital. The Commission further accepts the evidence of hospital officials that the decision to relax precautions was made with the belief that doing so did not pose a risk to patients, visitors or health workers.

The Commission does find that the decision to relax precautions in the face of the discovery of a new case under investigation for SARS, which could not be ruled out as SARS, was a disconnect that emphasizes the problems of using the formal classification system for cases to determine risk. Time and again throughout SARS the importance of communication to and from front-line staff is evident. Nurses on the psychiatric unit were concerned these patients had SARS. They expressed those concerns openly and repeatedly. And these concerns were dismissed.

Although the psychiatric unit remained under precautions on May 7, as the hospital decided to keep the unit at Level 2, the level of concern from staff about these patients was not reflected in the decision to relax precautions on the same day that a new case was announced. And it lacked a strong communication system to allow input from front-line care providers, including those physicians who were caring for these patients, to influence the decisions of those in charge. For example, although hospital officials did not believe that Patient No. 3 had SARS, treating physicians did. Her family was told she had SARS.

The story of the relaxation of precautions also underscores the importance of the application of the precautionary principle. When risk is uncertain, always err on the side of caution. As one infectious disease specialist so eloquently said:

> If you are not sure, act with the greatest caution to maximally protect health care workers and providers.

May 15 – Disconnect

On May 15, 2003, North York General Hospital announced that precautions were relaxed in the remaining areas of the hospital that had not been part of the initial relaxation of precautions on May 7. Areas such as the emergency department no longer had to wear protective equipment at all times.

Although the hospital's decision to relax precautions in the emergency department was in compliance with the provincial directives, not all staff were convinced that it was the cautious and safe thing to do. There appeared to be another disconnect, as emergency room staff raised concerns about patients coming to the emergency department with respiratory symptoms that they believed were consistent with SARS but at the same time they were being told that SARS was gone and that they no longer had to wear protective equipment.

Emergency room staff were alarmed in May when four family members of Patient A, who had died while an inpatient on 4 West, were admitted to North York General Hospital, all through the emergency department, all with respiratory symptoms. Their story is told later in this chapter. Staff raised concerns to hospital officials that this was a family cluster of SARS. Their concerns were dismissed. Also at this time, Mr. O, another inpatient from 4 West, had come back into hospital, through the emergency department, with pneumonia. Two days later, his wife was admitted to hospital, also with respiratory symptoms.

The admission of these patients did not go unnoticed by emergency room staff. When case after case was admitted but not identified as SARS, those staff involved with these patients or aware of the family cluster took matters into their own hands, continuing to wear personal protective equipment at all times, despite the relaxation of precautions. As one physician told the Commission:

> But clearly the biggest family was the [Patient A family], where five members were involved, in ample time to have started raising a flag that SARS was not over and not to put down our precautions. And I'm convinced that most of the North York staff that got infected, would not have gotten infected had they not stopped all their protections. It wouldn't have happened. All the people that got infected were all from the, almost all were from the 4th floor … Why not a very high proportion from the emergency room? Because those people continued to wear their full protection, right through. I personally never let down my guard, the only time I stopped wearing my uniform was when I left I hospital …

One emergency room nurse said that concerns about removing equipment were discussed between nurses and physicians:

> There was extensive concern among both the nursing and the physician population in our hospital and there were both nurses and physicians who refused to remove any of their gear when the directive came down that it was time to relax precautions.

From the perspective of those emergency room staff who were involved with the patients who were coming into the emergency department with symptoms that they believed were SARS-related, it was difficult to understand the push to remove equipment. Many wondered whether it was tied to concerns about the economy and the need return to normal as quickly as possible. As one emergency room nurse said:

> And it seemed to happen very suddenly and it seemed to happen concurrently with a turn in media coverage from SARS, SARS, SARS, to, you know we're dying here and our tourism is falling to pieces and the WHO has slapped us with an advisory and our team went over to Switzerland and the next thing we knew, that was it. Travel advisory is lifted, SARS is over, you can take your stuff off. And yet what we were seeing at the patient level in the department didn't reflect that. And so there were a lot of people who were concerned. And some were sort of partially relaxing restrictions, maybe not wearing the gowns and the goggles but keeping their masks on, and others took all their gear off.
>
> But in the emergency department, we tended to have the choice to ignore the directive, whereas on the floor in some other units in the hospital, those nurses weren't given the choice and their masks and gear were removed from the unit, particularly the 4th floor, which became the epicentre of the second outbreak. And there were many informal discussions between nurses and physicians about this thing not being over and then isn't it interesting how it's all changed overnight.

Dr. Tim Rutledge, the hospital's Chief of Emergency Medicine, said that the decision to relax precautions was done with caution and that he felt they were being more conservative than most other hospitals. He said:

> Dr. Rutledge: So May 15th, we drafted a much-anticipated policy and procedure for the emergency department, that was approved by the SARS Management Team, that we implemented on May 16th, on the morning of May 16th. And it was totally consistent with Ministry directives, and it was a relaxing of precautions that lagged behind most other emergency departments in the Greater Toronto Area. It was very conservative, but what it did was make the wearing of PPE [personal protective equipment] optional for those staff that were caring for patients that had no signs of any respiratory illness.
>
> Question: Were you part of the process that led to relaxing of those measures?
>
> Dr. Rutledge: Yes, oh yes. I was one of a few people that drafted this and presented it to the SARS Management Team and I was, myself and my program director, were the people that went

> into the emergency department and announced that this was the case. I can tell you that the vast majority of the staff were very happy about it. It was a relief to be getting out of the hot clothes and the masks for taking care of patients with sprained ankles, etc.

Dr. Rutledge said that the relaxation of precautions was directed at patients who did not have respiratory illnesses:

> What we were doing in the emergency department was we were being prepared to deal with any patient that presented at the emergency department with febrile respiratory illness in that state, whether we were aware if they had SARS or not. We were simply saying to the staff that were taking care of patients that had nothing to do with respiratory illnesses that they were safe to step down and this pertained to the emergency department.

Dr. Rutledge also told the Commission that he was not aware of concerns by physicians or nurses that it was too early to relax precautions. He speculated that had he been aware of such concerns, he probably would have gone even slower:

> Question: Once, in that period between the 7th and the 16th, the memo goes out on the 7th, it's now safe to relax precautions except in emergency and with SARS, etc. Were you aware of any physicians or nurses commenting that it was too early to be relaxing precautions in that way?
>
> Dr. Rutledge: I don't remember being aware of that. I will just, if you don't mind, refer to my MAC [Medical Advisory Committee] minutes to see if there was any such anxiety mentioned. I don't see any mention of any anxiety being mentioned on the MAC minutes of May 13th.
>
> Question: Was that your primary source of information at that time?
>
> Dr. Rutledge: No, it's my primary source of information at this time. I don't remember three years ago being aware of anxiety in that week prior to us opening. In fact, I think that if I was aware that there was a hospital angst, that I would have been much slower even. We were perceived by the commu-

> nity of emerg people as being very cautious in our relaxing of precautions. I suspect that if I was aware of hospital anxiety about stepping down, that I probably would have even gone slower. But I'm speculating.

The Commission finds no evidence that the May 15 decision to relax precautions in the emergency department at North York General Hospital was made in bad faith or with disregard for patient, visitor and staff safety. The Commission accepts the evidence of senior hospital officials and Dr. Rutledge that the decision to relax precautions in May was made under the belief that there had been no new cases of SARS in the hospital. The Commission further accepts the evidence of hospital officials and Dr. Rutledge that the decision to relax precautions was made under the belief that doing so did not pose a risk to patients, visitors or health workers.

But some emergency room staff, including a number of front-line physicians, still had concerns that SARS was around. They were continuing to see cases that they felt were SARS and were not convinced that it was safe to remove the protective equipment. As we see time and again throughout the story of SARS, health workers' ability to protect themselves from risk was dependent on the information they had about their risk. So those health workers who believed there were no new cases of SARS removed their protective equipment. And they did not have the same level of suspicion as other health workers who, based on their own observations or through discussions with their colleagues, believed that SARS was still around and that there were still new cases coming into the emergency department.

Those physicians and nurses who were actively involved in these cases or who were aware of these cases and suspected they might be SARS were able to make informed decisions about the use of protective equipment. They suspected new cases as they came through the door, and they suspected that it hadn't been 20 days since the last new case of SARS. But this knowledge was not shared across the hospital. Most health workers believed that SARS was gone, and willingly discontinued using protective equipment based on that belief and the understanding that they were safe.

Pressure to Remove Protective Equipment

As precautions came down, staff took varied approaches to the use of protective equipment. Some staff, most notably a number of the emergency room staff, continued to wear equipment at all times. Other staff, like some of the nurses on 4 West, chose to wear the equipment when providing patient care but removed the equipment when outside of a patient's room. Other nurses and doctors removed the equipment completely, believing that SARS was over and it was safe to work unprotected. As one doctor told the Commission:

> Question: Now on May 16th, the precautions were relaxed in the emergency department at North York General. Did you remove your equipment at that time pursuant to the directives? Everybody seems to have had a different approach.
>
> Answer: It was a bit loose, the approach. It was not a strong directive. People said that we were approaching, that we were between two and three incubation periods, perhaps, without any new cases, so they felt it was safe to relax the precautions. A lot of the nurses did not. Certainly the triage nurses did not. Probably 50 per cent of the doctors did not. I was one of them that relaxed under certain circumstances. Anyone with anything respiratory, I use precaution. But if it was like a sprain, whatever, I was relaxed in my approach to that. I was feeling confident.
>
> Question: But if a patient came in, they didn't have any respiratory symptoms, you'd use your normal precautions, which would be gloves …
>
> Answer: Yes, and I did not have my N95 on, which I loathed.

Hospital policies about the use of precautions also advised staff that they could wear protective equipment as they felt appropriate. The May 7 update to staff, notifying them of the relaxation of precautions in most areas of the hospital, said that staff who were not required to wear masks could still do so:

> Staff who work in areas that are not listed above are not required to wear masks. If you wish to still wear a mask, you may pick one up at the front door on our [your] way in.[658]

The May 7 minutes of the SARS Management Team reported that every unit was to maintain a supply of N95 respirators, for use as required.[659] Clearly there was an intention on the part of hospital officials and those in charge of the SARS response to continue to make masks available.

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[658] NYGH SARS Update.

[659] SARS Management Team, Minutes of Meeting, May 7, 2003.

Despite these written policies and communications, a number of health workers interviewed by the Commission reported feeling pressure to stop using protective equipment. In the story of the 4 West nurses, some, but not all, said that after May 7, equipment was difficult to obtain and that there was subtle and, at times, not-so-subtle pressure to remove the protective equipment, including the N95 respirator.

As noted earlier, not everyone felt pressure to remove their equipment. Many physicians and nurses continued to wear their equipment after precautions were relaxed and many reported to the Commission that they were not discouraged to do so. As one physician said:

> We were never discouraged in the emergency department. I had heard anecdotally that the nurses on 4 West were discouraged and that patients could find it alarming and frightening, so we were told that basically there were no new index cases, two incubation periods, it was okay to relax if we wanted to. We were given free rein.

For those who did report feeling pressure to remove the equipment, the pressure came from a number of sources, even at times other health workers. And the perception of some health workers that there was pressure to discontinue using protective equipment was not restricted to those working on 4 West. Other health workers, from other areas of the hospital, made similar reports to the Commission. For example, one nurse said that there were concerns expressed about frightening others by continuing to wear the mask:

> We heard a lot of how it appeared to people to see us wearing masks, how it frightened them off. You know you walk into a hospital and see people with masks, people get frightened. It just seemed like they were more concerned with what we looked like to the community, how we appeared. Okay, SARS is completely under control so there is no need to worry when in fact there was still high risk to us as it later showed, there was a high risk. Because I thought it was ridiculous that they cared more about what we looked like to the general public than they cared about how we could have been exposed, and we ended up being exposed. You would hear that we want to get back into the normal, we want to get rid of these masks. That was at the first outbreak.

This nurse told the Commission that although no one said this to her directly, it was a general sense at the time among her and her colleagues. She told the Commission that it was her view that there was pressure to remove the masks to show that things were "under control" and that "everything was okay."

Another nurse recalled the pressure she felt to remove her equipment and return to "normal":

> At the time when the WHO had put a ban on and the time that we were in, I guess it was into May when the city was suffering, I felt there was a concerted effort to get us back to normal and to get the gear off of us and that there was a great deal of pressure. Now, I don't remember the exact timing in that, it was probably early May, because we went into quarantine on the 23rd …

At times the pressure came from other colleagues, most well meaning, who also wanted to return to normal and forget about SARS. For example, one health worker who contracted SARS after precautions were relaxed recalled receiving well-meaning encouragement from a colleague to remove his mask and feeling relieved at being able to do so:

> There was still the fear of SARS. It was in the basement and I remember [a colleague] saying, "What are you wearing your masks for? Everything is okay. It's done, don't worry about it." I guess he was confident on that matter. Okay, fine. And to tell you the truth, I was actually relieved because those things are not actually comfortable. I breathe better without it. So it was actually a relief to not to wear it, not to have to wear a mask without any expectation of getting sick. Like I said, I was a pretty fit guy. I thought I could handle anything.

At other times, staff who wanted to continue to wear equipment came up against resistance from others who did not appreciate or understand their continued desire to do so. For example, one emergency room nurse recalled having difficulty obtaining equipment after the precautions were relaxed:

> That weekend [May 17-18, 2003] I worked and I had a very hard time getting gowns, getting the supplies, because the stress was no longer there on the team attendants to bring it. And again, we're dealing with people who don't have the knowledge of isolation technique, don't have the knowledge of disease, who have been told it's safe now, you don't need this stuff. And they're no longer willing to go and get it and supply it.

> And I had one scene on my second-last shift where I asked the team attendant, I said, there's no gowns in there and I need to go in and I'll need a gown to come out. And she said, well, we don't have to wear them anymore. And I said, if you choose to believe that, that's okay, that's your decision. But I said, I have enough knowledge that I know that it's still not safe. And she got really quite angry with me.
>
> And then the next one, the next scene I had the next day, I went to the area where we would take all our PPE off before going into the lounge, and one of the team attendants came, took her gown off and threw it up on the clean table where the clean supplies were. And I said, you just contaminated all those things. And she just got so angry, she just grabbed this gown, threw it into a corner on the floor and said, there, are you happy now, and stomped off. At one point there were no gowns in the lounge and I just refused to come out. I just called the charge nurse and said, there's no gowns in here, they're refusing to bring them and I am not going out there without one. And then they threw a bunch through the door at me and it turned out they came from outside rooms D and E.

This nurse told the Commission that this was not the message that came from the manager, and that her manager would not have permitted that behaviour. But the problem was, in the face of the official position that personal protective equipment was no longer required except for specific circumstances, those who chose to continue to wear the masks were seen by some as going against the official position. As she said:

> … they [the equipment] were thrown at my feet. And this is the message … I know our manager did not tell them to behave like that. It's just that they felt I was being unreasonable because the management said it wasn't necessary. Who was I to countermand it? And so, it put me in a difficult situation.

It is important to note that in the psychiatry unit and the emergency department, two areas where we now know there were cases of SARS, there was no evidence of transmission to staff, visitors or other patients, beyond the cases identified earlier in this report.[660] Some of this can be attributed to the fact that although these patients were not classified as SARS, because concerns about the possibility of SARS were identified they were isolated and managed with precautions. However, it was the vigilance and high index of suspicion of front-line staff that brought these cases to the attention of hospital infection control and it was the ongoing use of precautions that ensured that there was no transmission before the cases were identified and isolated.

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[660] In the psychiatry unit, SARS spread between three patients, whose stories are told earlier in this report. There is no evidence of transmission of SARS in the emergency department. Rather, as will be seen later in this chapter, patients and visitors who had been exposed to SARS through their contact with the 4th floor of the hospital, an area we now know had many unidentified cases of SARS, were admitted through the emergency department and treated in respiratory isolation, on medical units in the hospital.

There is no evidence to suggest that senior management or those in charge of the SARS response discouraged the use of protective equipment after the two phases of relaxing precautions at North York General on May 7 and May 15.

There were clearly different experiences among health workers with respect to the availability of equipment and to the support from colleagues and superiors for continuing to use the protective equipment if they chose to do so. However, as noted earlier, the reports from those health workers who felt they did not have a choice, whether through lack of equipment or whether through pressure from others to remove their equipment – subtle, direct, well-meaning, or otherwise – are troubling.

During a public health crisis, no health worker should be denied the opportunity to use or be discouraged from using approved protective equipment and infection control and worker safety procedures she believes are necessary to protect herself. As one physician who cared for SARS patients told the Commission:

> Front-line health care workers should be allowed to exercise their own kind of caution, and I understand that there would be guidelines provided. But they should have unlimited access to personal protective equipment. Let's say if there is a next epidemic, avian flu or whatever, then health care workers should be allowed to feel safe when they come to work and not to feel that they are the guinea pigs or whatever to see if they would come down with this disease with this kind of protection.

The stories of those health workers who felt they were pressured to remove protective equipment underscore the important responsibility that senior managers have to ensure a safety culture in which no one is discouraged, directly or indirectly, from protecting themselves.

Conclusion

In the new disease that was SARS, no one knew for certain when it was over. And in a hospital, like North York General, that continued to have ill staff and ill patients pop up under investigation for SARS, with the missing link for diagnosis being simply that they could not connect it to a source, reassurances that SARS was over, that there were no new cases of SARS, directly impacted decisions about relaxing precautions, whether at an institutional level or at an individual level, as well as vigilance for new cases of SARS. As will be seen in the following section, the story of 4 West, precautions were relaxed and a cluster of illness among patients was not suspected to be SARS because everyone thought SARS was over.

As the report of the Joint Health and Safety Committee at North York General eloquently said:

> While the exact manner in which SARS presented and spread among workers at North York General Hospital remains unanswered, it is clear that this occurred where the presence of SARS went unrecognized and, almost exclusively to staff who were not caring for known SARS patients. The outbreak declared at NYGH in of May 23, 2003 occurred more than two full incubation periods after an apparent victory in the SARS battle and the relaxing of PPE measures. In fact, NYGH was one of the last facilities to move to a relaxing of such measures.
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> However, there was no SARS I and SARS II – SARS had never left us. In May of 2003 NYGH continued to care for SARS patients at its General Division. The presence of SARS represents a risk, a risk that can be greatly diminished by our ability to recognize it and respond appropriately. The use of PPE and infection prevention and control measures in caring for our SARS patients and patients in other areas considered to be at high risk, such as the Emergency Department, was quite effective. *Our ability to recognize this new and emerging disease, of unknown etiology, was our point of weakest defense; a defense that could have been greatly strengthened.*
>
> POC Directives continually emphasized the need to "maintain a high index of suspicion" for SARS. Prophetically, when the battle against SARS appeared to be over in late April of 2003, the MOL Directives emphasized the need to remain vigilant in this regard. With the benefit

> of hindsight we can see evidence of a failure to maintain a high index of suspicion and failure to capitalize on mechanisms which could have enhanced our ability to do so.[661] [emphasis in original]

In hindsight it appears likely that if the precautionary principle had been applied, and precautions had been maintained until the unexplained cases had been fully investigated and definitely ruled out as SARS, the spread of SARS could have been prevented.[662] As one physician said:

Answer:	I think what SARS did is it humbled us and it also made us realize that even when we think we know everything, we don't. And that diseases can, the changing nature of disease emerges gradually and we have to be very attuned to the clues that come from the ground up, not necessarily from the top to the bottom so I think humility makes the better nurse and doctor. I would always err on the side of caution.
Question:	And that applies to protective equipment?
Answer:	Yes, until they're … it's very difficult. We were told there's absolutely nothing to worry about and then we did have something really to worry about, so I don't know when one can ever relax, but I would, as I said, I would err on the side of caution and use the most protective equipment I could until I had an absolute assurance that a modification was safe. Especially if you're dealing with someone's life.

North York General Hospital did not make the mistake of believing it was over too soon alone. As noted earlier, in the section titled "Victory Declared," it was a mistake made by many as Toronto celebrated the end of SARS. Unfortunately, in the rush to recover from SARS, in the rush to say that SARS was gone, assurances were given to heath workers and precautions were scaled back at a stage that we now know was premature. As one health worker said, the problem was that everyone wanted to believe it was over and no one wanted to go back on the WHO list:

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661. JHSC Report, p. 54.

662. As noted earlier in this report, the only test that could rule out SARS was convalescent serology. This test required taking samples from the patient approximately 30 days after the onset of illness, to determine if they had developed antibodies for the coronavirus. Alternatively, the 20-day waiting period (two incubation periods) could have been applied to those cases under investigation for SARS, such as Patient No. 3, who developed symptoms around May 5.

It was a decision of the hospital to keep them on, so we actually had kept them on longer, and we look at, it looks like a prudent thing to do, but in hindsight, we should have had them on even longer because if you go back to the fact that they never really identified how did those people on 8 West get ill, then those patients on 7 West, they didn't have the epilink there either.

And yet, so you have these cases without an epilink, you don't know how they got it but it looks like it's over so you now have all of the masks off. So we'd had a couple of incidents of it, we still had active patients that we were treating, we probably should have kept them on even longer. But if you put yourselves in that time context, everybody was really happy about getting their masks off. Everybody was saying it's over. Everybody wanting to think it was over. And at that point, honestly, the WHO [World Health Organization] was the enemy.

4th Floor – The Orthopedic Floor

In hindsight, the unexplained SARS-like illness of the psychiatric patients in April and May and the unexplained SARS-like illness of the Patient A family cluster in May, discussed below, were signs at North York General Hospital that SARS was not contained. We now know that there was another sign of the re-emergence of SARS at North York General: problems on the 4 West orthopedic ward during April and May, including an unusual number of deaths, respiratory illnesses, and illness among staff.

Eighty-three per cent of cases associated with the second outbreak at North York General were epidemiologically associated with 4 West.[663] SARS simmered undetected on 4 West throughout April and May and spread rapidly once precautions were relaxed in early to mid-May. But the evidence of how SARS got a foothold on 4 West and how it spread there in April and May is diffuse and problematic. Answers to questions such as how SARS got on 4 West remain unknown. As the Naylor Report found:

> Meanwhile, unbeknownst to the hospital administration, several elderly patients on the orthopedic ward (4 West) had been fighting what were at first believed to be typical post-operative lung infections. Among them was a 96-year-old man with a fractured hip. Through means still unknown, illness spread from 4 West over the next few weeks to other patients and to several visitors and staff.[664]

While it remains unknown how SARS came to 4 West at North York General, public health officials believe that it originated with one of two patients, both admitted to the 4th floor in the early part of April 2003.

The first patient, Patient A, was admitted to North York General Hospital on March 22, 2003. Patient A was 96 years of age and had been admitted for treatment of a fractured clavicle and hip, caused by a fall. He was first admitted to 8 West, which was not at the time the SARS unit.[665] He was transferred to 4 West on April 2, 2003. On April 3 he developed a fever. A chest x-ray on April 4 showed bibasilar infiltrates.[666] The SARS Field Investigation, an extensive investigation led by Health Canada into the second outbreak, reviewed Patient A's case and found that he had:

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[663] SARS Field Investigation, p. 19.

[664] Naylor Report, p. 39.

> … multiple episodes of fever and radiographic findings of pneumonia throughout his hospital stay (March 24, April 3, and April 19), initially responding to antimicrobial therapy.[667]

He died on May 1, 2003, while a patient on 4 West. During his hospitalization at North York General he was not identified as a possible SARS case and was not investigated for SARS. Four members of Patient A's family were admitted to hospital during May 2003, after his death. They all had SARS, although as noted in the previous section, they were investigated as possible SARS cases but not classified as SARS until after May 23, 2003. Although Patient A had multiple episodes of fever and radiographic findings of pneumonia throughout his hospital stay, his onset date for SARS is believed to have been April 19, 2003.[668] As the SARS Field Investigation concluded:

> …the onset of his [Patient A's] SARS illness was "most compatible" with the April 19, 2003, date, as his family did not get sick until May.[669]

A second patient, Patient B, was a 56-year-old man who was admitted on April 11, 2003, to the same four-bed room on 4 West as Patient A. Patient B had a fever, cellulites and a leg abscess.[670] The SARS Field Investigation also reviewed his case history and described his progress after his admission:

> He [Patient B] was treated with antibiotics, diarrhea developed on the 15th, and fever returned on the 17th along with respiratory symptoms and infiltrates on chest x-ray.[671]

Patient B improved while hospitalized and he was discharged home.[672] He was identified as a SARS case retrospectively, after Public Health and outside experts reviewed medical charts on and after May 23, 2003.

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[665] 8 West became the SARS unit on April 2nd, 2003.

[666] SARS Field Investigation, p. 16. In June 2003, a team of experts investigated the outbreak at North York General. The SARS Field Investigation team, reviewed charts and other sources of patient information, such as radiographic reports.

[667] SARS Field Investigation, p. 16.

[668] SARS Field Investigation, p. 16.

[669] SARS Field Investigation, p. 16.

[670] SARS Field Investigation, p. 16.

[671] SARS Field Investigation, p. 16.

[672] SARS Field Investigation, p. 16.

Although these two patients are believed to have been the first patients with SARS on 4 West, it is unknown who passed SARS to whom, or whether there was an unidentified SARS contact with whom both patients had contact. The SARS Field Investigation in June 2003 found that:

> Patient B could have passed SARS to Patient A, or the two patients could have been infected from a common, as yet unidentified source. These two patients had no SARS travel risk, no visit to another "SARS-affected" hospital or prior close contact with known SARS patients other than themselves.[673]

The SARS Field Investigation concluded:

> How SARS was first introduced to 7W [the psychiatry unit] and 4W remains an unresolved issue.[674]

We will never know all the twists and turns of the path of SARS while it simmered on the 4th floor of North York General during April and May until it broke out with a vengeance once precautions were relaxed, starting May 7, 2003. Given the scientific

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673. SARS Field Investigation, p. 16. Although Patient A was a patient on 8 West when Health Care Worker No. 1, whose story is told earlier in this report, was working on the unit, post-SARS studies have not found any connection between the two cases of SARS. As the SARS Field Investigation found:

> Incidentally, on March 30th, 2003, while patient A was on 8W, a nurse on that ward developed SARS symptoms and later tested PCR positive in stool samples and then serocoverted to SARS-CoV. The nurse's mother was an inpatient at Scarborough Hospital Grace Division (where SARS transmission was occurring) in late March; her serology results were positive for SARS two months later but she did not meet the WHO case definition. Evidence of SARS was sought in the other patients with whom this nurse had contact on the only known date she was working while symptomatic. Although two additional patients had isolated, unexplained temperature elevations within ten days of this contact, we found no convincing evidence for SARS. She also should have been in full precautions when seeing patients. The 8W nurse had unprotected contact with another nurse on the ward, who subsequently developed SARS 3 days later. She was sero negative. This appears to be the full extent of this transmission chain. Our investigation failed to find evidence for direct contact between the first 8W nurse and patient A or B. (at p. 17)

674. SARS Field Investigation, p. 18.

impossibility of telling with precision who gave SARS to whom and when on 4 West in April and May, the retrospective evidence of the spread of SARS on 4 West must be approached with caution.

This caution is underlined by the fact that it is all too easy to see things clearly, now that we know SARS was spreading on 4 West, a fact far from clear at the time. It is difficult even to pin down in hindsight the precise details of evidence such as staff illness and unusual levels of death and respiratory illness. This evidence was not systematically investigated and recorded because there was no surveillance system in place at the time. This points clearly to the need for surveillance systems to ensure that these vital pieces of evidence are not missed in the future. But the lack of systems at the time to ensure that such crucial information was recorded, monitored and investigated makes it impossible to draw firm conclusions now from data that were not systematically recorded at the time.

Why did SARS simmer undetected on 4 West in April and May? Why were the cases of SARS, so clear in hindsight, not detected at the time?

It is impossible to prove exactly how the course of events would have been different had all the systems and checks been in place that we now know might have identified SARS on 4 West. It is impossible to speculate with any certainty that any single measure would have detected and stopped the spread of SARS on 4 West. But the clusters of respiratory illness, increases in mortality rates, and staff illness on 4 West were all signs that something was wrong on the unit. These were all signs that were either missed altogether or, when they were noticed, were not reported to or investigated by hospital officials or public health authorities. While it is much easier with the benefit of hindsight to look back and identify the failures in Ontario hospitals' infection control systems, that does not negate the importance of examining the events in April and May 2003 on 4 West, to ask how the signs of SARS were missed and to determine how to prevent an outbreak of the kind that occurred on 4 West from happening again.

Tragically, these lessons were learned at the expense of those who became ill, those who died and those who lost love ones: patients, relatives, visitors and health workers. We must never forget the heroism and sacrifice of the front-line health workers who became ill in the line of duty. We must never forget Ms. Nelia Laroza, an orthopedic nurse who contracted SARS and later died. Ms. Laroza and the other health workers on 4 West went to work every day, unaware of their risk, to care for others. As one physician from 4 West said:

> Nobody was as close and as intimate with the patients, and I use that in the broad sense of the word, than the nurses were. Changing them, in those rooms for long periods of time, nobody got "nuked" more than the nurses. Showering them, cleaning them and their soiled clothing. The risk that the nurses took unknowingly … they could never be repaid for what they went through.

Respiratory Illness and Death on 4 West

It is now known that during the months of April and May, there were cases of unrecognized SARS on the 4th floor of North York General. There was a cluster of respiratory illness on the unit among patients who were later identified as SARS. There was also an increase in deaths on the unit during April and May 2003.

The number of cases of respiratory illness began to escalate after precautions were relaxed in most areas of the hospital on May 7, 2003. By May 23, 2003, patients, visitors and health workers were ill with SARS. As the SARS Field Investigation found during a retrospective review of the onset of illness on 4 West and the spread of SARS to patients, visitors and health workers during April and May 2003:

> Cases began to escalate in the second week of May, shortly after enhanced precautions were selectively relaxed in low-risk settings. Although only 6 additional individuals developed symptoms before then, 8 more developed symptoms in the 2nd week of May, 20 in the 3rd week, and 29 in the 4th week.[675]

Post-SARS, the Joint Health and Safety Committee at North York General reviewed information about the number of deaths on 4 West in April and May 2003, and noticed a significant increase. They found:

> We then obtained, from the hospital, information regarding the number of deaths on 4W during the months of April and May, 2003. (Appendix) There were 6 deaths in April and 7 deaths in May 2003. Two of the deaths would occur on May 1; the 96-year-old patient, possibly the index

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[675] SARS Field Investigation, at p.18.

> case, was among these deaths. Another two deaths would occur on May 9 for a total of 4 deaths in the first two weeks of May. We also looked at the trend of the number of deaths over a five-year time period from 1999 to 2003; the period from March to June was examined. (Appendix) We discovered that the number of deaths from March to June 2003 was 14. This was almost double the number of deaths recorded for the same time period compared to the previous years examined. Recall that 13 out of these 14 deaths occurred in the months of April and May, 2003. Clearly, this is a significant increase.[676]

During the one-month period of April 19, 2003, until May 19, 2003, four patients on 4 West who we now know had SARS died. Their deaths were in addition to deaths from other causes on the unit.

The cluster of respiratory illnesses and any increase in mortality rates on the unit was not identified to Public Health or provincial officials at the time. SARS-related respiratory illnesses and deaths on 4 West were also not identified to Public Health as such at the time. Consequently, there was no investigation into deaths or respiratory illnesses, and cases were not investigated as possible SARS until May 23, 2003, when public health officials and outside experts began to review cases at North York General. At that time they were investigating a possible link to an outbreak at St. John's Rehabilitation Centre. More will be said about the outbreak at St. John's Rehab later in this report.

North York General senior management and the SARS Management Committee were also unaware of the cluster of illness on 4 West and were unaware that there were possible SARS cases on the unit. Senior hospital officials, including Dr. Keith Rose, Bonnie Adamson (the CEO of North York General), and the two co-chairs of the SARS Management Committee, Sue Kwolek and Dr. Glen Berall, all reported to the Commission that they were unaware of any problems on 4 West until May 23, 2003.

Dr. Keith Rose, the administrative vice-president responsible for SARS, told the Commission that the first he knew of problems on 4 West was on May 23, when Public Health was on site to review files. He told the Commission that when he initially heard about St. John's Rehabilitation Centre, he thought that the concern was whether St. John's Rehabilitation Centre might have spread SARS to North York General. He did not know that the opposite had occurred:

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[676] JHSC Report, p. 43.

> On May 23rd I was on call overnight, I was in the hospital. I was called to go down to see the emergency around 2 or 3 o'clock in the morning. A breach of precautions intubating a patient from St. John's and therefore a decision to close the emergency department from a lack of staffing and to send staff home on home quarantine and to wait to receive more information about St. John's. It wasn't until 9 or 10 o'clock in the morning that I became aware that there was a link between St. John's and North York. I had no idea, in fact my impression was St. John's had the problem and had potentially spread it to North York through the incident in the emerg department overnight. And then the day unfolded at that point. [Dr.] Don Low was there, along with Public Health. Chart reviews, it became clear by mid-afternoon that 4 West was a very problematic centre, that the staff that had been identified as sick that day were sick and needed to be assessed and we needed to make major changes for the hospital.

Ms. Sue Kwolek, co-chair of the SARS Task Force, when asked when and how she learned of the problems on 4 West, said:

> Not until May 23rd when Dr. Low came to review some of the charts of patients in the organization. This was, you will recall, the St. John's thing, on May 22nd there was an announcement that St. John's had patients under investigation for SARS. I came in early that morning and was advised of the St. John's situation. There was a pre-scheduled meeting with [Dr.] Donald Low at 11:00 that morning. I remember this day very clearly. It's etched in my brain. Eleven o'clock, he came in and started reviewing the charts, and sometime in the afternoon, the manager of Occupational Health and Safety came up to the boardroom where the command centre was and she said, there are quite a number of staff on 4 West who are reporting in ill. And that's the first time that, as a SARS management team, and it was me at that point, there was nobody else on the SARS management team there, that I became aware that there was an issue on 4 West.

There is no mention of the orthopedic floor or any problems associated with the floor in any of the SARS Task Force/Management Committee minutes between April 1 and May 23. Toronto Public Health said that they received no reports about potential SARS patients on 4 West, or about a respiratory outbreak on that floor, prior to May 23, 2003. Hospital administrators, had they known of the problems on 4 West, would have been required to report not only SARS cases, but any respiratory infection outbreak.[677]

Although senior hospital officials and Public Health were unaware of the problems on 4 West, we now know there were signs that something was wrong on the unit. A cluster of respiratory illness, an increase in deaths on the unit, and staff illness were all signs that something was wrong. The question that remains in the wake of SARS is, did anyone see the signs? If so, what was done to raise the alarm? And, if the alarm was raised, why didn't it reach senior hospital officials or Public Health?

Identification of SARS on 4 West – Did Anyone See the Pattern?

During the SARS outbreak, directives from the Ministry of Health and Long-Term Care stressed the importance of heightened suspicion for any new SARS cases. For example, a directive issued by the Ministry of Health and Long-Term Care on April 14, 2003, provided:

> Health care workers should maintain a high index of suspicion when assessing any patients for new onset of fever or respiratory symptoms.[678]

This message was repeated in later Ministry directives.[679] If this heightened suspicion was supposed to be in place, how were so many SARS cases on 4 West missed?

None of the orthopedic surgeons from 4 West interviewed by the Commission reported being aware of a cluster of respiratory illness or an increase in deaths on the unit. Similarly, none of the physicians who were involved with patients from 4 West and interviewed by the Commission reported being aware of a cluster of respiratory illness on 4 West or an increase in deaths. Unlike the psychiatric patients, where front-line physicians had their own opinions that the patients had SARS, none of the physicians from North York General who were interviewed by the Commission reported suspicions of SARS in respect of any of the orthopedic patients prior to May 23, 2003.

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[677] *Health Protection and Promotion Act*, R.S.O. 1990, c.H.7., s.27; and see Ontario Regulation 559/91, amended to O.Reg, 365/06, Specification of Reportable Diseases.

[678] Directive to Acute Care Facilities in the Greater Toronto Area (Toronto, York , and Durham Regions), Directive 03-04, April 14th, 2003. Full text of bullet #8 quoted below in report.

[679] See Directives to All Ontario Acute Care Hospitals, Directive 03-04(R), May 1, 2003.

Many of the 4 West nurses who were interviewed by the Commission reported an awareness of an increase in deaths or respiratory illness on the unit, either through their own observations or as a result of discussions with colleagues on the unit. Not all of the nurses, however, reported this, and some said that they were unaware of an increase in deaths or respiratory illness on the unit until on or after May 23, 2003. Even those nurses who told the Commission they were aware of an increase in respiratory illness and/or deaths said they did not know it was SARS. For example, one nurse, who recalled a meeting where concerns about illness and death were raised with the unit administrator, did not recall any discussion about the possibility of these cases being SARS at that meeting or any other time:

> Question: Did anyone ever raise the possibility that SARS was in your unit during that meeting or during that time period? Did those patients have SARS?
>
> Answer: I don't think so.
>
> Question: Did you or your colleagues ever wonder if they had SARS? Is that something that you thought of at the time or did everybody just think that the patients just had respiratory illness?
>
> Answer: Just maybe respiratory illness.
>
> Question: Did you or anyone else to your knowledge ever raise in April or May the possibility that those patients might have SARS?
>
> Answer: No, I don't think so.

It would be easy in hindsight to say that the problems of 4 West should have been obvious, but it is clear that they were not.

By mid-April, SARS seemed to be under control. 4 West was a unit that was not expected to have SARS cases and no one imagined it would be the entry point for a new SARS case. Many health workers, including physicians and nurses who worked on 4 West, believed SARS was gone. As one nurse from 4 West told the Commission:

> As far as we were concerned, SARS had left the city.

When the psychiatric patients became ill, they weren't classified as SARS because there was no epilink. Hospital officials believed that SARS had been ruled out by Public Health and outside experts. Health workers at North York General were told that the psychiatric patients did not have SARS and that there were no new SARS cases. Many of the staff working on 4 West, including the physicians, did not know about Patient A's family cluster, the family that came through the emergency department in May 2003: they did not know that four family members of one of their patients, who had died in hospital on May 1, 2003, had subsequently admitted to hospital with respiratory symptoms. For those who did know about Patient A's family, the information provided about this cluster of illness was that they were not considered SARS. Many of the nurses and doctors who did not have their own beliefs that SARS was still around, based on their involvement with cases such as the psychiatric patients or the Patient A family cluster, believed that there were no new cases of SARS. In their mind SARS was gone. As one physician from 4 West said:

> Everyone assumed it [SARS] was over, I'm sure you've heard this already, and then all of a sudden more cases appeared.

Decisions about the use of personal protective equipment, the overall vigilance of staff, and their suspicion for SARS were impacted by the belief that SARS was gone. For example, one physician who worked on the 4th floor and who later developed SARS recalled hearing about the psychiatric patients but understood that there was a gastrointestinal illness on the unit. This doctor, like many others, did not know that the three psychiatric patients remained under investigation for SARS throughout April and May, and did not know that four family members of Patient A, an inpatient who died while hospitalized on 4 West, had been admitted through the emergency department, all with respiratory symptoms, during May 2003. As this physician remarked:

> Now, knowing that there were other potential cases, that would have been useful information, but to my knowledge the situation had been cleared so I felt comfortable removing the protective equipment.

Other factors also contributed to the failure to identify the respiratory outbreak or to identify SARS cases on the unit. In late March, Toronto had been hit by a particularly nasty ice storm, resulting in a large number of slip and falls. North York General ended up with a large number of orthopedic patients who came to the hospital through the emergency department, as they picked up spillover resulting from the closure of Scarborough Grace Hospital and York Central Hospital. Because elective surgeries had been cancelled in the wake of the first outbreak in March, 4 West had available bed space, which was used to accommodate patients from 8 West, a geriatric unit that had been cleared to become a SARS unit.

As one orthopedic surgeon told the Commission:

> We had a large number of patients through the emergency department. Part of that was because Scarborough General emergency and, I think, York Central emergency were closed because they had SARS in those hospitals, so we were seeing more than our usual number of emergency cases, and then we had the ice storm and, if my memory serves correctly, we had, in a 24-hour period, about 70 patients that had fractures of various kinds that required surgical treatment. So our floor became full with injured patients during that period of time, many of which had fractured hips and more alarming management problems … At that time we also had a number of bed-spaced medical patients and we didn't have our usual complement of younger elective orthopedic patients that would normally be there. So we had more than our usual number of elderly patients with strokes and other problems apart from orthopedic problems because they were there for other reasons.

When asked about the higher number of deaths on the unit, this surgeon explained how the makeup of the unit was not what it normally was:

> The context of that [the higher number of deaths] is after and during SARS I, during the period that you're referring to [April and early May 2003], we were not allowed and we were not having elective admissions to the floor. Those patients in general, many of them are healthy, otherwise well patients who just have an orthopedic problem. During that period of time, we were only admitting to the emergency department, which meant that we had many bed-spaced patients. 8 West was closed because it was a SARS unit. [8W] is normally a medical floor. So we were taking overflow on our floor. We had patients who were only admit-

> ted through emerg because of injury. These tend to be the less well elderly patients. So it was not our usual patient mix during that period of time.

Many, but not all, of these patients were elderly and were believed to have developed pneumonia, not uncommon in elderly people who are injured or post-operative. As the orthopedic surgeon quoted above told the Commission:

> It's [developing post-operative pneumonia or respiratory illness is] not uncommon. As one of my professors used to say, rarely but not uncommonly. It occurs, and elderly people are prone to develop this, but we're aware of that so now we make every effort to get them up and try to avoid that happening. So it isn't as common as it once was, but it still is the issue, and going back to the years in the early part of the century when a fractured hip meant it was likely that you would get pneumonia and die. That's no longer the case, but there's still the same risks. And so yes, elderly people are prone to get if not pneumonia, certainly adolectisis, that is, collapse at the base of the lung, where they get a little low-grade fever and don't eliminate the secretions from that part of the lung as well as they should, and that usually clears up once they are a little more mobile and can do some deep breathing and coughing, within a day or so. It's not pneumonia, but it is sort of a precursor if you like. It's sort of the stage perhaps before pneumonia, before they necessarily get a bacterial infection, but it does produce a fever, it does produce some respiratory symptoms.

Pneumonia in an elderly post-operative patient did not by itself raise an alarm. When a post-operative patient or a medical patient, especially one who was elderly and had other underlying medical problems, developed respiratory symptoms, there was no clear leap to the possibility of SARS. None of these patients were believed to have had contact with a SARS case or to have a travel history that would put them at risk of being in contact with a SARS case. And, as noted above, among these patients there were good alternate diagnoses. As one physician said:

> Those clinical assessments are very, very difficult to do. The program for SARS is no different from the program for any other infectious disease, influenza or cold, you can't tell. And all you go on is the balance of probabilities. So you had a hip patient who gets a normal post-operative pneumonia, and is 90 years old, nobody could be expected to think that would be SARS. Turns out it was.

Post-SARS, the SARS Field Investigation into the outbreak at North York General Hospital noted that seasonal illness may also have made the identification of new SARS cases difficult:

> The occurrence of seasonal respiratory infections such as influenza may further compound the difficulty in identifying a SARS case, which then may escape early detection by clinical and public health systems.[680]

It was the clusters of illness that in retrospect signalled there was a big problem on 4 West. But individual physicians providing day-to-day care could not easily see the overall patterns in illness or identify clusters of illness. At play was the fact that there was a group of physicians providing care for a group of patients on a rotational basis. No one physician saw each of the patients who developed SARS symptoms on 4 West. One physician who was regularly on the orthopedic unit explained how the shift cycle of picking up medical cases on the unit did not lend itself to identifying patterns of illness on the unit:

> The way it used to work before was, a patient would have a fever of 38, 38.5 and then staff would call the orthopedic surgeon saying, this is so and so, fever of 38.5, has a bit of a cough. And the specialist would most often, some handled their own, some didn't, would order some tests. They would get a chest x-ray and a blood count, which is what surgeons are programmed to do, or some would say, call the internist on call. So the internist on call would come see the patient, maybe within 10 minutes, maybe within six hours, maybe the next day, would see the patient, make recommendations and pass it on to another internist the next day. So you've got this fragmented care. And you've also got some orthopedic surgeons who would call a specialist, some wouldn't, and I think the nurses didn't know what to do.

Another physician, who also was involved with some of the 4 West patients, described how the shift cycle of physicians did not permit for surveillance of patterns of illness:

> As a clinician, I walk in to do my shift, and I go home and maybe a day later or two days later, I go in to do another shift, and I go home. If I am

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[680] SARS Field Investigation, at p. 26.

> on call on the ICU. I do, that week, seven days straight and then I sign out to somebody else. Before that seven days, I didn't look after these people, after seven days later, I wouldn't look after them again, until my next time on call, maybe a month later. So probably it is a fragmented view of globally what happened at that time.

The "fragmented care," as these physicians described, was not conducive to detecting patterns among patients. As Dr. Tamara Wallington, a Toronto Public Health physician who was part of the investigation into the outbreak at North York General, observed, 4 West had "individual patients who were being managed according to their clinical diagnosis."

The patient makeup of the unit at the time, the similarity between the presentation of SARS and other respiratory illnesses, the belief that none of the patients had been in contact with a SARS case, the availability of plausible alternate diagnoses, the fragmented care, and the prevailing belief that SARS was over, all made it difficult for any one physician to identify the cluster of SARS illness on 4 West.

After the second outbreak, the importance of heightened awareness and vigilance was painfully clear. The Ministry issued new, stronger directives that reinforced the need for vigilance. The directives finally clarified that the absence of the epilink did not rule out SARS:

> **Health care workers should maintain a high index of suspicion when assessing any patients for new onset of fever or respiratory symptoms.** Fever alone must be considered as a sign of potential infection and should be considered even in the absence of other signs of an epidemiological link. Therefore, any person developing the following symptoms or signs after admission – fever, dry cough, unexplained hypoxia, shortness of breath or difficulty breathing – must be treated as follows … [emphasis in original] [isolation and precaution procedures follow].[681]

The SARS Field Investigation, referred to above, identified the importance of considering the possibility of nosocomial acquired SARS, even in the absence of an epilink:

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[681] Directive to Acute Care Facilities in the Greater Toronto Area (Toronto, York and Durham Region), Directive 03-09, May 31, 2003.

> In a febrile post-operative hospital patient in the absence of known epidemiological links, it is important to consider the possibility of nosocomial SARS acquisition in addition to the usual causes of post-operative fever. This is especially true if the hospital still houses SARS patients or has unusual fever or pneumonia clusters within the institution. Suspicion for SARS should not be limited to community acquired pneumonias.
>
> A standardized assessment for SARS (e.g. clinical, radiographic, and laboratory criteria) might be used among all hospitalized patients with new-onset fever, especially for units or wards in which clusters of febrile patients are identified.
>
> All acute care hospitals should have a low threshold for consideration of SARS in their patients and report this possibility immediately to their Infection Control service and the local public health unit. Risk-based SARS associated infection control precautions should be instituted promptly and SARS-CoV testing performed.[682]

No Provincial or Local Surveillance

While everyone wanted to believe SARS was gone, scientists and experts knew that in the aftermath of an outbreak, it was important to continue to look for cases. In an article published May 9, 2003, the Centers for Disease Control recognized the need for ongoing surveillance to find suspect cases:

> In Singapore, suspect and probable cases are identified and reported using a modification of the WHO case definition that expands contact to include any health care setting. Surveillance for suspect cases includes any fever and/or respiratory symptoms among HCW's, clusters of cases of community-acquired pneumonia, unexplained respiratory deaths, and individual cases with no contact but that are clinically suspicious for SARS.[683]

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[682] SARS Field Investigation, at p. 27.

[683] CDC, MMWR, Severe Acute Respiratory Syndrome, Singapore, 2003.

The importance of surveillance was not unknown, but the responsibility for surveillance for new and undetected cases of SARS was left to individual institutions and to front-line practitioners. Neither local public health nor the Province was involved in this type of surveillance. As Dr. Naylor found:

> Provincial directives required hospitals to isolate patients with fever and respiratory symptoms in either the hospital or the emergency department until SARS had been ruled out, but there was no recommendation for formal, hospital-based surveillance programs. The SAC [Scientific Advisory Committee] had actively discussed the need for heightened surveillance. Its functions, however, were being wound down. Public health officials viewed syndromic surveillance as a matter for institutional infection control and outside their mandate; they lacked resources to implement such a program in any case.[684]

Officials from Toronto Public Health told the Commission that they emphasized the need for robust surveillance within health care institutions and that they fully expected that individual institutions would take steps to ensure possible cases of SARS or clusters of illness were identified and reported to them.

At the provincial level, officials emphasized the importance of maintaining a high vigilance for SARS. The SARS Clinical Decision Guide (Ontario) from the Provincial Operations Centre, dated April 23, 2003, provided:

> The diagnosis of SARS remains a challenge as the identification of a link to a known probable case becomes more complex. Although the epidemiological link will always be important when it is present, it may not always be identified initially. This link may not be found for several days, or it will become evident in several days if other close contacts of the patient become ill. It is for this reason that high vigilance for SARS needs to be present for every case of pneumonia.[685]

Although Public Health continued to investigate new possible cases, there was no surveillance system to look for SARS throughout the health care system. Early into the outbreak there seemed to be an attempt at a form of surveillance through the Office of the Chief Coroner, begun on April 5, 2003.

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[684] Naylor Report, p. 38.

[685] Ministry of Health and Long-Term Care, SARS Provincial Operations Centre, SARS Clinical Decision Guide (Ontario), April 23, 2003.

On April 5, 2003, a directive was released from the Office of the Chief Coroner through the SARS Provincial Operations Centre. The directive provided as follows:

> As a result of the recognized overlap in clinical and radiological findings between SARS and other clinical conditions and in an effort to better identify patients who may have died as a result of SARS or while infected with the SARS virus, hospitals in the GTA should, effective immediately and retroactive to March 14, 2003 report the deaths of all patients who appear to have died as a result of (or while diagnosed with);
>
> 1. Congestive heart failure,
> 2. Pneumonia (typical or atypical),
> 3. Respiratory failure,
> 4. Adult Respiratory Distress Syndrome
>
> to the Office of the Chief Coroner (OCC). The coroner will review the clinical information available and make a decision as to whether the case will be accepted for a coroner's investigation.
>
> Hospitals should refer these cases to the Dispatch Office of the OCC at [number provided].[686]

The directive appeared to signal a recognition that the danger as the number of new SARS cases abated was that new cases would go undetected. The memo appeared to be an attempt at surveillance of hospitals in an effort to identify potential unidentified SARS-related deaths. But just 10 days after it was issued, the directive was rescinded.

Dr. James Young, then Commissioner of Public Safety and Security and Chief Coroner for Ontario, explained the decision to rescind the directive:

> At the time this directive was issued, the SARS outbreak was in its early stages and the clinical, laboratory, and epidemiological features of the

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[686] SARS Provincial Operations Centre, From the Office of the Chief Coroner, April 5, 2003.

> disease were poorly understood. There was concern that cases of SARS may be missed because of confusion with other diseases, and the directive was intended to capture all possible cases.
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> This directive resulted in a large number of cases being sent for review, with considerable additional workload for hospital staff and reviewers. This process did not, however, identify any additional cases of SARS. It was apparent that the medical staff in GTA hospitals were keeping abreast of the developing body of knowledge regarding SARS as the outbreak progressed, and that they were able to identify potential cases with the assistance of public health officials as required.
>
> As a result of this experience, it was decided that there was no added value in reviewing the very large number of patients who appeared to have died as a result of (or while diagnosed with) congestive heart failure, pneumonia, respiratory failure or adult respiratory distress syndrome, where SARS was not already being considered by clinical staff or public health officials.
>
> Therefore, on April 15, 2003, Dr. [Barry] McLellan issued a directive to all hospitals in the GTA that they no longer needed to report these "potential" cases to the Office of the Chief Coroner. This decision was made following consultation with the SARS Scientific Committee that was providing advice to the government at that time. Hospitals were, however, instructed to continue to report all SARS deaths.[687]

In hindsight, the assumption that "medical staff in GTA hospitals … were able to identify potential cases with the assistance of public health officials as required" turned out to be optimistic.

The Joint Health and Safety Committee of North York General Hospital, which conducted an internal investigation into the death of Ms. Nelia Laroza and the illness among health workers, questioned another assumption that underlay the cancellation of the directive:

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[687] Letter from Dr. James Young, April 14, 2004, to Joint Health Safety Committee, North York General Hospital.

> It is certainly questionable whether we were so much more knowledgeable about SARS in the space of ten days (April 5 to April 15).[688]

SARS continued to be difficult to diagnose. There was still no quick test to determine whether a patient had SARS or some other respiratory illness such as pneumonia. Even where the clinical impressions of front-line physicians and nurses who were admitting and caring for patients identified a case as possible SARS, their clinical impressions were discounted where there was no epilink to a SARS case or a SARS region. We now know that the ability to diagnose SARS cases with accuracy was not progressing as well as it was thought at the time, and that the assumption which underlay the April 15 cancellation of the Chief Coroner's directive turned out to be incorrect. This is clear from the number of patients at North York General who had SARS but were not identified as possible SARS cases and from those cases who were identified as possible SARS who were said not to have SARS when we now know they did.

Post-SARS, some health workers wonder, if the April 5 Coroner's protocol had remained in place, would the deaths on 4 West have been recognized as an unusual cluster that warranted further investigation, which would have uncovered the simmering SARS on 4 West? As the Joint Health and Safety Committee at North York General concluded:

> … the subcommittee believes that if the April 5 directive had been left in place for hospitals who had SARS patients, the unusual number of deaths on 4W might have been seen to be suspicious by the Coroner and subsequent events might have unfolded differently. Recall, that there were 4 deaths on 4W in the first two weeks of May; possibly two of them either in the same room or closely located in terms of room number and possibly with a similar diagnosis. To us, this important directive represented a valuable check and balance within the health care system. In hindsight, it is very clear that patients with SARS on 4W/S went unrecognized and undiagnosed despite the retrospective assurance of Dr. James Young that, "the medical staff in GTA hospitals … were able to identify potential cases with the assistance of public health officials" … (Personal Communication, Dr. James Young, April 14, 2004).[689]

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[688] JHSC Report, p. 45.

[689] JHSC Report, p. 45.

One physician who worked with SARS patients thought it would have made no difference at all:

> We have so many patients with ARDS [adult respiratory distress syndrome] and respiratory failure and congestive heart failure. I think they would have just been totally inundated and it would have been the same problem, too many cases that they wouldn't have been able to wade through and sort out anyway. So, no, I don't think that would have made any difference.

Because it was cancelled so soon after its implementation, it would be speculative to suggest that the Coroner's directive might have identified problems on the orthopedic floor at North York General. An obvious limitation of the Coroner's directive is that it was intended to catch deaths only, but as we now know there were many patients who were ill with SARS before May 23, 2003, who had not died and who ultimately survived the illness. These cases would not have been captured by the Coroner's memo, even if it had remained in place.

What can be said is that provincial or local surveillance initiatives might have made a difference. We now know that the diagnosis of SARS was not clear and that cases were missed. There was nothing system-wide to ensure that undetected cases were caught. Any system that might have identified clusters of illness or death could have been helpful and might have prompted a look into what was happening on 4 West.

Whether or not the Coroner's directive would have made a difference, physicians agreed that a strong surveillance system could have helped. As the above-quoted physician said:

Question:	If there were a system in place that required the question to be answered, what do these clinical indications of SARS, that we're not calling SARS, mean? In other words, instead of asking itself the question, do these patients have SARS, if the hospital had asked itself a different question: What does this show is going on? Maybe we better take a look at mortality rate here, a cluster there? In other words, let's do an epidemiological investigation, would that make sense?
Answer:	I think if we had the infrastructure and the expertise to do that on an ongoing basis, then, sure, because we probably

> would have picked up that in March there were, you know, five orthopedic deaths, and in April there were 25, hey, what's going on. But nobody that I'm aware of had that kind of top-notch, or very few anyway, had that kind of a top-notch epidemiologic surveillance infrastructure and system set up to track that kind of thing on a reasonable time basis. And if we did, sure, we might have picked that up that there was a funny blip in the mortality rate on that floor.

Another physician who argued that surveillance would have made a difference, as was evidenced in other areas, said:

> One of the things that happened after the hospital closed, was I went back and started reading the CDC Atlanta's Morbidity and Mortality Weekly Reports, and discovered that there was one dated May the 9th, that was in the library where the authorities, I think it was in Singapore, had started tracking nosocomial pneumonia regardless of contact history, beginning as early as late March. And this was then reported in May the 9th. If we had been tracking the literature appropriately, or what was happening in other centres, that whole clustering on 4 West, the orthopedic floor, potentially could have been avoided.

It turned out that the pattern of illness was not hard to see as soon as one focused on 4 West. When experts went in on May 23, 2003, they knew within a matter of hours that they were looking at a cluster of illness within the hospital. As Dr. Tamara Wallington told the Commission:

> We continued to review the charts anyway, and I would say after about an hour, we realized that we were dealing with a major outbreak. We reviewed these charts and realized that there was a serious, a significant clustering of febrile respiratory illnesses associated with deaths, all in one small ward. [All between] the 17th and May 23rd. And again, the numbers are significant, and I mentioned 23 health care workers and patients to you between April 17th and 23rd, and that's less the Patient A family [five family members]. That's less some of the people we already knew about. So the numbers were very significant, and these were names that were completely unfamiliar and unknown to us.

By that evening Dr. Low was announcing to the public, under media cross-examination, that it was a significant cluster and that the focus was on the orthopedic unit of the hospital.

As one physician pointed out, when Public Health came to the hospital on May 23, 2003, to review charts, the pattern of illness was much easier to see, as they knew what they were looking for:

> They were looking for it. They had a preconceived idea, and a reasonable one, that's why they came looking to North York General. It wasn't that it was so simple … They knew that there was this funny cluster of cases at St. John's, and they figured out that, well, isn't it funny that a lot of these patients actually started out at North York General. So, they knew what they were looking for, and they went right to it, and it doesn't take long to find something when you know what you're looking for. So, when it's happening sort of in a scattered, very obscure, somewhat occult way around you, and you're living in real time, it's not always that obvious.

While it is no doubt true that the discovery of the outbreak on 4 West was much easier with the knowledge that they were looking for SARS and that there had been a patient associated with 4 West who was now believed to have SARS, Public Health officials did not go to the hospital expecting to find a large cluster of illness. They thought they were going to review the chart of Ms. N, the patient who had been transferred to St. John's Rehabilitation Centre from North York General and who later developed SARS, to look at the chart of her roommates, and to look at Patient A's chart. Public Health officials did not know going into North York General on May 23, 2003, that they would discover a cluster of ill patients and ill staff on 4 West. As Dr. Wallington said:

> We had no reports at all of any febrile respiratory illnesses at 4 West from the hospital. We were completely unaware of what was happening on 4 West until we went in on May 23rd. And, in retrospect, it would have been helpful to have known about what was happening on that unit. So, no, 4 West would not have been considered a place where someone would be epilinked.

The pattern of illness became clear only when the files were reviewed as they were looking for possible unidentified SARS cases. But that is the point of surveillance: to look for SARS even in places where you might not expect to find it. And that was not happening.

Surveillance would have also required greater infection control resources. As Dr. Wallington said when asked if she would expect any hospital with a SARS unit to have active surveillance throughout the hospital:

> That's a really good question, and I think in an ideal world that would have been and should have been happening. I think that hospitals would probably tell you that there would've been real difficulty with that since for many, many years, infection control has been ignored, it's been under-resourced. And in order to do that, which I think is a really good point, and it's something that should exist, in order to do that you need to be resourced to do it. It is not a simple task. It takes a high level of expertise and commitment to do this. So, you have to have the right people with the right training in place to do that.

Speculation is a slippery slope. But it is certainly possible that the simmering SARS cases on 4 West might have been detected earlier had an independent review of the kind envisaged by the April 5th Coroner's memo or some other kind of system-wide surveillance sparked a review of the 4 West cases.

Surveillance Within North York General

Without a provincial or local surveillance system, surveillance for new or undetected SARS cases was left to the infection control program of individual hospitals. Consequently, the level of surveillance and approach to surveillance varied among hospitals. But many hospitals, including North York General, did not have a robust program and did not have the infection control resources to implement such a program during SARS. As Dr. Naylor found:

> Hospitals responded by treating all patients admitted with community-acquired pneumonia as potential SARS cases until proven otherwise. Most took special precautions with inpatients who developed respiratory symptoms suggestive of infectious disease. Some hospitals also did "fever surveillance." For example, at York Central Hospital, all inpatients had their temperature checked twice daily. Chest x-rays were ordered for all York Central inpatients with fever and respiratory symptoms and they were isolated promptly; and until SARS could be ruled out, a specialist in lung diseases assessed and treated all pneumonia patients in isolation. Similar measures were used in Singapore health care facilities.

> Although infection control practitioners attempted to institute comprehensive surveillance programs in some hospitals, such a program alone requires approximately 2 full-time staff members for a 500-bed hospital, more than the majority of hospitals have on staff for all infection control tasks. At North York General Hospital, for example, one full-time and one part-time infection control practitioner were responsible for 425 acute care beds. The infection control director, Dr. Barbara Mederski, occupied the role without any salary, protected time, or even an office. In the absence of a directive, and with ongoing budgetary concerns, instituting full syndromic surveillance was not seen by most hospitals as necessary or feasible.[690]

Identified SARS cases or cases under investigation for SARS were required to be reported to infection control, who, along with Public Health, monitored the status of these cases daily and were required to report daily lists to the Ministry of Health and Long-Term Care. During SARS I, in accordance with Ministry directives, the hospital had initiated and maintained screening of anyone entering the hospital, whether they were patients, visitors or health workers. Hospital resources were directed at screening for new cases of SARS to enter the hospital. What was missing was a strong surveillance system to look for unidentified cases of SARS in the hospital.

Surveillance was especially important in areas like 4 West, a unit that was vulnerable because it was a place no one expected to find SARS. Unlike the emergency department, where staff maintained vigilance for new cases because they knew they might have a new SARS case come through the emergency department doors, the staff on 4 West did not expect that SARS could be on their floor. And, as noted above, health workers were led to believe the outbreak was over.

As one 4 West nurse told the Commission when asked about surveillance:

> Question: Was there anyone during this time whose job it was to monitor these things [respiratory illness and deaths] on your unit? For example, to keep track of the number of deaths and keep track of the number of respiratory problems.

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[690] Naylor Report, pp. 38-39.

Answer:	Not really. Because we all thought it was going to be temporary. SARS was going to disappear and these people [the medical floor patients] are going to go back to their floor and then we would be normal again.

Another nurse reported that although they noticed that there seemed to be more deaths, there was no system to report or investigate those deaths:

> Because I know one of my concerns was that when Mrs. X [a 4 West patient] passed away, I remember at the nursing station I said, there's eight deaths, and my question was if these people are in the nursing home and this person had come to us from the nursing home and the person died, we'd have to contact them and find out what number is she on their list. Because if it becomes 10 deaths, then we have to do an inquiry. So we were up to eight at that point, and that was my concern, that we have eight deaths. I wasn't even thinking of SARS when I was thinking of that. My concern was that if the nursing home reached 10 deaths, we have to call. Whenever a person comes from a nursing home and died, we have to call to find out what number is this person on your list, because there has to be an inquiry after 10 deaths in a certain space of time. And here we are up to number eight, what is the policy for our floor? That was my concern.

One physician who worked on 4 West and provided care to SARS patients in both SARS I and II, when asked about reporting of respiratory infections, said:

Question:	Were there any rules or procedures in place about reporting infections, respiratory infections in particular?
Answer:	Not that I am aware of.
Question:	What about a procedure for reporting patients that might fall under the category of persons under investigation?
Answer:	If there was, I was not involved.

Had the cluster of respiratory illness been identified, even without a link to a possible SARS case, it should have raised the alarm and it should have been reported to Public Health. As Dr. Wallington told the Commission:

Question: If you had been in that room for some other reason that morning and the ICPs had started bringing in the charts and saying we need a second opinion? So everything the same, except nothing from St. John's. Can you explain what it would look like?

Dr. Wallington: I would still be very concerned. This was clearly a clustering of febrile respiratory illnesses with deaths.

Question: Coming out of 4 West?

Dr. Wallington: Coming out of 4 West, and so this is an outbreak that we would take very seriously.

Question: Even forgetting about St. John's and the tests?

Dr. Wallington: Yes. Absolutely. This was an outbreak that was happening in a hospital, an acute care facility which still housed SARS patients. So this was an outbreak that we would have to take very, very seriously.

Unfortunately active surveillance for infectious respiratory illness was not mandated at the time by any provincial directives and there was no clear standard of surveillance that had to be met by hospitals.[691] It was not until weeks after SARS II hit that the Provincial Operations Centre issued a SARS surveillance program directive. On June 16, 2003, Directive 03-10, Directive to Acute Care Facilities in the Greater Toronto Area (Toronto, York, and Durham Regions), required the following:

> All hospitals must institute active surveillance for infectious respiratory illnesses as outlined in the appended document Active SARS Surveillance Program.[692]

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[691] Although, as noted above, hospitals were required to report to public health any outbreak within the institution of respiratory infection. *Health Protection and Promotion Act*, R.S.O. 1990, c.H.7., s.27; and see Ontario Regulation 559/91, amended to O.Reg, 365/06, Specification of Reportable Diseases.

[692] Directive 03-10, Directive to Acute Care Facilities in the Greater Toronto Area (Toronto, York, and Durham Regions), June 16, 2003.

The appended document outlined the importance of surveillance. It provided:

> Active surveillance is an important epidemiological tool that serves a variety of purposes, both during active outbreak situations, and during times when specific outbreaks are not declared.
>
> The ability to identify cases early in an outbreak, or in anticipation of an outbreak, offers enhanced protection to patients, staff, visitors and the community at large. It also identifies the need for appropriate infection control precautions and prevents transmission of disease.
>
> The presence of an Active Surveillance Program in acute care hospitals is important for the early identification of "clusters" of cases requiring investigation. Regular attention by clinical nursing and hospital staff to the combination of certain symptoms (e.g., "fever and respiratory symptoms") in a systematic fashion across the hospital environment also provides continuous opportunities for staff education on both infection control practices and other SARS-related information. An Active Surveillance Program minimizes the possibility that SARS cases will be missed.
>
> Further, an appropriately resourced Active Surveillance Program will build and maintain public confidence in the public health and hospital care systems, both during periods of transition and over time.
>
> Ultimately, an efficient system will significantly reduce costs to both human and other resources.
>
> An Active Surveillance Program is not meant to replace Infection Prevention and Control practices already in place in acute care hospitals, but rather to supplement them.

The program was to be applied to all inpatient units, with the exception of critical care units.[693] As part of the program, unit staff were to monitor and record on a surveillance sheet if any of their assigned patients had unexplained fever, cough, hypoxia and/or shortness of breath. An assigned surveyor was to be responsible for going to all inpatient units daily to review the patient lists and speak to staff and/or review charts as necessary. The surveyor and infection control practitioner were to review all information provided by the surveillance to enable infection control staff to quickly determine if there were gaps in the identification of at-risk patients and their appropriate isolation.[694]

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[693] The program provided that "Another method of case finding will be developed for Critical Care Units."

Post-SARS, the need for strong surveillance systems and strong infection control programs to support such systems is clear. As the SARS Field Investigation found:

> Enhanced surveillance is needed, including for the following:
>
> > Absenteeism among hospital workers
> >
> > Unusual fever or pneumonia clusters among patients and hospital workers within health care facilities, particularly in facilities providing care to SARS patients
> >
> > Abnormal death patterns within health care facilities and pneumonia deaths
> >
> > Significant increase in laboratory testing for respiratory pathogens or SARS Co-V
> >
> > Patients discharged from hospital with pneumonia of unknown etiology
> >
> > Community acquired pneumonia in areas with recent SARS transmission[695]

The SARS Field Investigation emphasized the importance of strengthening the infrastructures, both in a hospital and in public health, to support disease surveillance systems:

> It is critical that hospital infection control, disease surveillance systems and public health be strengthened with increased resources

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[694] Paraphrasing Directive 03-10, Directive to Acute Care Facilities in the Greater Toronto Area (Toronto, York, and Durham Regions), June 16, 2003.

[695] SARS Field Investigation, p. 27-28.

> across Canada. There should be increased staffing and the infection control medical director should be compensated for the time devoted to infection control issues.[696]

Tragically, strong disease surveillance systems and resources necessary to support those systems were not in place prior to SARS II. Although some hospitals had limited forms of surveillance, North York General was not out of step with the generally prevailing surveillance standards. Had Ontario's surveillance standards been higher and mandated in all hospitals, the systems better and the resources more available, the cluster of illness on 4 West should have been detected before May 23.

Isolation of Febrile Cases

One of the big questions that remains in the wake of the second outbreak is, even if the patients were not identified as SARS, if they had respiratory symptoms, were they handled with droplet and contact precautions? If so, how then could SARS spread so widely on the unit?

On April 16, 2003, North York General Hospital issued a revised policy for droplet and contact precautions. The revised policy included the following:

> Criteria for Full Droplet and Contact Precautions are required:
>
> 3. When a patient has respiratory symptoms suggestive of an infection and have been put on droplet and contact precautions (i.e. CHF, CAP, Vented, Pneumonia, Asthma).[697]

At that time, provincial directives required isolation and the use of precautions for any patient who developed fever or respiratory symptoms. An April 14, 2003, directive to all acute care hospitals required:

> HCW's [health care workers] should maintain a high index of suspicion when assessing any patients for new onset of fever or respiratory symp-

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[696] SARS Field Investigation, p. 28.

[697] North York General Hospital, SARS Task Force, Droplet and Contact Precautions for Staff, April 4, 2003, revised April 10, 2003, revised April 16, 2003.

toms. Any person developing the following symptoms or signs after admission – cough, unexplained hypoxia, shortness of breath or difficulty breathing – must be treated as follows:

> a) Transfer to a single room if available. If a single room is not available, cohort similar case presentations (e.g., congestive heart failure cases with other patients with congestive heart failure) and maintain at least one metre spatial separation between beds. If there is more than one patient in a room, the curtains must remain closed between beds to minimize droplet transmission.
>
> b) Patient activity should be restricted i.e. patients should remain in their room with the door closed until SARS is ruled out.
>
> c) All visitors and health care workers must wear a N-95 mask or equivalent when entering the room.
>
> d) Where possible, diagnostic and therapeutic procedures (e.g., imaging, hemodialysis) must be done in the patient's room.
>
> e) Patients should be out of the room for essential procedures only and wear a surgical mask during transport.[698]

The new normal directives, issued May 13, 2003, also stressed the need for isolation and use of precautions for patients who had respiratory symptoms suggestive of an infectious disease, until SARS could be ruled out.[699]

It is unclear the extent to which the North York General Droplet and Contact Precautions policy was followed. Although the majority of staff, including physicians, interviewed from 4 West recalled the policy, few remembered it clearly and most could not recall whether or not they applied it. Most reported to the Commission that if the policy was in place, they would have followed it. As one physician told the Commission:

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[698] SARS Provincial Operations Centre, Directives to All Ontario Acute Care Hospitals, Directive 03-04, April 14, 2003.

[699] Directives to All Ontario Acute Care Facilities, Directive 03-04(R), May 13, 2003.

> My observation would be that it was followed pretty carefully. Certainly on our floor it was. I think that, I'm sure there may have been some breaches from time to time, but my observation being on the floor a fair amount was that it was carefully certainly all the surgeons, nurses and so on were very careful with this. I mean, there was significant concern during that time with respect to this illness, so people were observing the precautions that were outlined carefully.

Another physician who worked on the unit agreed with the observation that the policy was followed. He said:

> Everybody tried when the policy came about. The nurses were informed. They were pretty good about doing it. I don't think too many corners were cut.

But how then did SARS spread throughout the unit? Even if the patients weren't identified as SARS, if they had "respiratory symptoms suggestive of an infection" or, as per the directives, if they had a cough, unexplained hypoxia, shortness of breath or difficulty breathing, they were supposed to have been put on droplet and contact precautions, which included isolation.[700]

Because there wasn't a strong system of surveillance to focus on the possibility of undetected SARS transmission in all areas of the hospital, including those thought to be "safe" or "SARS-free," SARS cases were not identified when they simmered on 4 West. When possible SARS cases were not identified on 4 West, the problem was compounded by the fact that those cases of respiratory illness, which we now know had SARS, were not always isolated or treated with droplet precautions. As Dr. Wallington told the Commission:

> People with febrile, respiratory illnesses were to be managed in precautions, they were to be managed in respiratory precautions. That was the direction. And there was a good reason for that. It was to prevent potential spread of SARS or any febrile respiratory illness. And I think what we're seeing here [on 4 West] is that when you don't put people in isolation, you get this unrecognized, ongoing, low-level, grumbling transmission. And then the health care workers start to take their masks off and they get sick.

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700. April 16th NYGH Policy.

One member of the infection control team at North York General told the Commission that when a patient was put on isolation, infection control were supposed to be notified. They recalled later noticing that on May 20, 2003, a date when we now know there were many patients ill on 4 West with SARS, no patients from 4 West were flagged as being on isolation. As they told the Commission:

> Any patient who developed fever or respiratory illness was put on isolation and they were supposed to be flagged in the patient care system so that we would have a record of who was on isolation … I do know, in looking back afterwards, I saw one of those reports from May 20th, and there wasn't anyone's name on it from 4 West. We weren't notified through the system.

Clearly, the policy that was in place was not working.

This is not to blame the health workers or physicians who worked on 4 West, or to suggest that anyone was at fault. Many factors contributed to the failure to isolate all respiratory patients during April and May, including lack of awareness and understanding of the policy, difficulties in complying with the policy, and a general inattention to robust infection control throughout the Ontario health care system.

One physician, when asked how SARS spread so extensively on 4 West notwithstanding the policies that were in place, suggested that either the precautions were not adequate or the precautions were not adequately applied:

> … if cases developed while we were taking precautions, and I'm not sure about the time frame here as to when the cases actually became ill, whether it was after we abandoned some of those precautions or not, but if it occurred while we were using those precautions, then that would suggest the precautions weren't adequate or weren't adequately applied. And one would have to, in future, be very careful about instructing staff of the importance of observing these precautions carefully. The other possibility is that if they were observed well, then the precautions weren't adequate, that the sort of use of a simple cotton gown and gloves and mask were not enough to protect you from that particular virus.

The existence and application of the droplet and contact precaution policy was not brought home clearly to all front-line staff. Some nurses did not recall the policy and were not aware of its requirements. Few nurses recalled receiving any training on the policy. One nurse said she was aware of the existence of the policy, but that there was never time to sit and read the policies:

> I remember that [the isolation policy], but I think they just put it at the desk and said go and read it if you have a chance. But in nursing, when will you have a chance to do that? It would have been better if they had had a meeting and informed us. There is hardly any chance [to sit and read] with the workload, because 4 West is a heavy, heavy workload floor.

Of those who were aware of the policy, some nurses reported uncertainty about its application and about who could institute the isolation protocols. Even some doctors, while aware that they could isolate patients, were unaware of who else might do so and of the application of the policy outside of their involvement. Who decided initially whether a patient should be put on precautions? Some nurses thought only infection control could put a patient on isolation. Others thought only a doctor could make the decision to isolate a patient. Other nurses thought that only a manager or head nurse could isolate a patient. As one nurse told the Commission when asked about the isolation policy, she understood that a manager had to approve it and that the application of the policy was dependent on bed availability:

> Question: And were you aware of a policy in existence during April and May that required that a patient who had a respiratory illness be isolated?
>
> Answer: It rings a bell, but I believe they had to have respiratory symptoms and a fever, when a lot of the patients that were dying in our unit had no fever.
>
> Question: And whose decision would it be to isolate a patient, to put a patient in isolation?
>
> Answer: I think it has to be in consultation with the manager. And also you have to consider if there's going to be an open bed.
>
> Question: That was going to be my next question. What was the situation like on the unit as far as the ability to isolate patients?
>
> Answer: Non-existent really. We were very, very busy in there. Very rarely did we have empty rooms.

4 West was not a place where anyone expected SARS. The resources and emphasis on strict adherence to isolation and use of precautions were not as strong as in areas that anticipated handling SARS cases. As one 4 West physician said when asked how

SARS spread on 4 West despite the policies in place with respect to isolation and the use of protective equipment:

> It is hard for me to answer that question. We had a number of patients come to 4 West from other floors during that time when 8 West was closed, to make it a SARS ward. The precautions that were being taken were relatively simple. We were not wearing, at the early stages, N95 masks, for instance. At the time, there was no obvious disease on the floor so these precautions were being observed, but they were pretty simple. And I'm sure that there were some errors of handling something after you took your gloves off perhaps, or I think errors in technique I'm sure were made during that time that could allow it to spread. And then in terms of patient-to-patient, a four-bed room, if one patient gets an illness, it's clear that it can spread to the patient in the next bed without much difficulty, because it was droplet, so I have to assume that's how it occurred.

As the Joint Health and Safety Committee at North York General so eloquently described the problem:

> 4W was not considered to be the "front lines" and not deemed to be at high risk like other areas, such as the ER, the ICU, or the SARS Unit. Therefore, there was possibly less suspicion and less vigilance. As well, it was common for post-surgical patients to have fever and respiratory complications and patients were not isolated since it was not considered to be unusual. Neither the 96-year-old patient nor the other patient who could also have been an index patient were initially isolated. Both were located in the same four-bed room. The 96-year-old patient was finally isolated but only because he was having diarrhea. Both patients had fever, respiratory symptoms and diarrhea. In retrospect, we saw that SARS would appear in "low risk" areas, such as the original 8W (Geriatric Unit), 7W(Psychiatry) and on 4W/S (Orthopaedics/Gynecology). The reality was that all areas of the hospital were the front lines and were high risk since we had patients with SARS in the building, since we didn't know everything there was to know about SARS (and still don't) and due to the possibility of human error or that things might be missed. Most of the focus seemed to be on the "gate" which was the ER. Viruses, however, will move wherever they are taken. During an outbreak of disease or during the transition period (which turned out to be a very dangerous time), the highest level of vigilance must be maintained

> throughout every area of the hospital and concerns from any area must not be dismissed. The problem is deciding when it is safe to relax precautions.[701]

Even if a nurse or doctor was aware of the policy and tried to strictly follow it, there were challenges in its application. One nurse from 4 West described to the Commission the challenges they faced when they tried to comply with isolation procedures:

> We don't have isolation rooms. These are regular rooms, so our isolation rooms would have to be that if a patient is in the room and two of them [two patients] are in there, you have to take one out. You have to take one out, they clean the room and put the patient in and just pray that whatever one had the other one doesn't pick it up before you do that isolation. We put the other one in a room by themselves … So if they have a private room that's empty or there's somebody in there that doesn't mind moving, then you take that person out and put them into a room with somebody else, put the isolation patient there … We have about four rooms that are private. And those are the rooms that act as our isolation rooms, and if these patients refuse to give up their private rooms, to bunk with somebody else, we have nowhere to put these patients.

One physician said that, although there were errors in isolation on 4 West, isolating patients on 4 West was not easy:

> Errors that occurred on 4 West were not so much errors of definition of SARS, they were errors of quarantine. People coughing, people with fevers that should have been isolated. Now the trouble is we don't have the resources to do that. You take a 90-year-old person who's got a cough and try to put a mask on them, you need 24-hour nursing to get that mask to stay on, because they'll just take it right back off. It's an unbelievable set of resources that's required to enforce respiratory isolation and, you know, when you call it SARS, suddenly you get all those resources, negative pressure rooms and lots of funding and staffing, but when we go back to our normal surveyance, what you have is policy. This is respiratory isolation policy, we have a sign on the door, and that's very different from staff and funding.

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[701] JHSC Report, p. 48.

Another physician who worked on 4 West described how many factors, including the type of patients on 4 West, made it difficult to comply with isolation procedures and to minimize exposure and risk to staff:

> Question: Some of the staff from 4 West have pointed out that the unit is not conducive to isolating a large number of patients. Any observations on that?
>
> Answer: It's not, because when you have a full unit, a unit has 32 people, 32 beds, and only one, two, three, maybe four or five rooms that you can make isolation rooms.
>
> Question: By isolation, that would mean the patient is in the room alone?
>
> Answer: In the room alone. And that is not the greatest isolation, because you don't have, as far as I know, and perhaps now they do, this negative pressure in those rooms. Is it a perfect isolation room? In the emergency department we have perfect isolation rooms, up to the standard of, whatever standards you would use to make it an isolation, they have, and they probably have it in ICU and CCU, but on the floors, I don't know if the standard is as it should be for a strict isolation, although I assume it is. The other thing about isolation is, these people are orthopedic patients who are recovering from surgery, who need physiotherapy, who need nursing care, they are surgical patients, so there are often people going in and out. During SARS, when you actually had a SARS patient, in the actual SARS unit, there was minimal in and out of that room. It is my understanding that the nurses made their rounds occasionally, did everything at one time, no visitors, this was quarantine and isolation the way it should be. Last week, we had a patient on 4 West that was isolated because of a cough and a bit of a fever. She wore a mask, the patient wore a mask during physio, the physiotherapist had to go in there and give her some physio, the nurses had to go in there, the lab had to go in there, tests had to be done, visitors are allowed in.

In the wake of SARS, the importance of isolation and droplet precautions with respiratory cases became clear. But prior to SARS, isolation of patients and use of protective equipment were not routine. This was not true only on 4 West; it was true throughout the health care system in Ontario. Many physicians told the Commission that before SARS, the only time they isolated patients and used a mask was when they thought the patient had TB. Even then, the mask used was typically a surgical mask. One senior physician, who regularly worked on 4 West at North York General, candidly described a higher level of knowledge and degree of care in respect of isolation and worker safety post-SARS. He explained how SARS changed the way he practised medicine:

> Answer: SARS has changed medicine for me unbelievably. Now part of that is not just me, part of it is I am forced to be aware of it, because the minute somebody develops a fever with a respiratory component, they are isolated by the hospitals. There are strict orders to isolate, so I am forced to examine this very carefully.
>
> There is better knowledge of what happened. So that in itself, and I keep stressing this because we are aware of what happened, we are more knowledgeable now. Anybody with a fever and a respiratory, a fever and cough, is isolated, until you sort it out. That's one. If somebody has a fever with no symptoms, the nurses note it and I am notified, because they could just have a urinary tract infection. Then I go through the questions, is it this, is it that. A fever with respiratory illness or respiratory complaints, or probably fever with cough, are isolated. Cough without fever may not be and if you are not sure, 24-hour/7 we have an ID [infectious diseases] team we can call for advice, which the staff use, and they use it wisely. Anybody who has a medication that is delivered by droplet, because there are certain oxygens we give, that happened to me the other day. I had a patient who I am pretty sure we are talking about congestive heart failure, it was congestive heart failure, required high-concentration oxygen to keep their oxygen up, the respiratory therapist came by and decided this oxygen should be humidified. I was not informed, but this was her mandate. As soon as that happened, because it was droplet, the patient was put in isolation. When I came in the next day, I

> asked, why was this patient in isolation? When we intubate a patient, I have to mask and gown and glove, something I never did for 25 years. I still, still have difficulty with that. Although the younger doctors do now, it is like seatbelts.
>
> Question: Do you do that for all patients now, or ones with respiratory illness?
>
> Answer: If I'm intubating, you've got three-point protection.
>
> Question: And are these changes that have happened as a result of knowledge since SARS?
>
> Answer: Since SARS – none of this was around before SARS. I can recall doing mouth-to-mouth on patients before SARS, as part of CPR. I was going to say, it's like seatbelts, you know my kids don't think twice about seatbelts. It's their natural reflex.'

Where isolation and precautions were strictly followed, it was easy to see how even the most diligent health worker could make an honest mistake in its application or how there could be a breach in protection for those patients on droplet precautions. One physician who routinely cared for SARS patients described how difficult it was to maintain precautions and how the use of the protective equipment was not routine:

> Even with a policy that tells you to do this, it was something that we didn't practise on a daily basis up until then. It takes a conscious effort to ask me to remember the sequence. Until you do that, it is difficult to think, but basically it is not a second nature, so you have to remember to wear masks, do this, do this, do this. Once it is finished, take this and this and this and that. All of that is not a second-nature thing. It is uncommon. It is almost like you have to follow – that's why the signs are so big, so that you can actually remind yourself. And even though you do that every day, you still have to remind yourself what to do and at times, you kind of maybe forget about one step. So that is human nature, you don't remember.
>
> We were breathing under the N95 mask. We were breathing our carbon dioxide back into our brain, and working 16 hours under those masks and gowns. It was very difficult to concentrate, to remember what to take off

> first, etc. And so even with the policy, sometimes just down to the nitty gritty, it's like okay, the gloves go here, gown here, maybe there is a crack, maybe a droplet goes there and you forget and you wipe your nose.
>
> I think everybody was trying to follow instructions. Nobody wanted to get SARS. We were trying very hard, everybody was trying very hard to follow whatever was there. And myself, working in the intensive care unit, I was intubating these people with a space suit etc. Again, you were taking it off, trying not to contaminate yourself, you have to make a conscious effort. It is a very slow process and it takes you forever. Instead of going in and out, it takes you forever to see one patient. So, you can see that in so many hospitals, there can be cracks.

The nurses on 4 West were hard-working, caring and attentive. They were used to providing close, constant care for the patients on their unit. They were not used to limiting their exposure to patients or leaving them alone and unattended in their rooms. For example, one nurse who contracted SARS recalled working with one of the elderly patients on the unit, who we now know had SARS. This nurse explained to the Commission that she spent a lot of time in this patient's room, not because she was the patient's nurse, but because she spoke Russian and would go in and speak with the patient and provide comfort to her. As she told the Commission:

> She wasn't my patient, but the doctor would sometimes ask me to translate because I know Russian and she didn't speak English. I came to her room so many times to help. After she knew I was Russian, she said, come and talk to me, I am so lonely here. So I came to her to talk, whenever I had a minute. I was not wearing a mask.

This type of compassionate patient care is what we all hope for in a health worker. Tragically, health workers, like the one quoted above, were unknowingly put at risk, simply by being good nurses.

It is much easier in hindsight to look back and say what should have happened on 4 West. But at the time, no one working on 4 West believed their patients would have SARS. The hospital had a SARS unit, which was not anywhere near 4 West. They believed SARS was contained. As one nurse told the Commission:

> On the 8th [floor], that was suppose to be a SARS unit, but not on our floor. We didn't have any idea there was anyone with SARS.

One physician from 4 West reflected that it was easy to look back now and see what went wrong, but it was not so obvious at the time:

> I don't think anything went wrong. It was the demon that was so new and we were learning about it and we had no test and had no treatment. The study cohort is so few. It is easy to look back and say what we should have done. For me what went wrong, looking back, and it is only because I have the knowledge now, is that perhaps everybody, as they had fever and cough, should have been isolated and we should have been more aggressive in isolating them and consider SARS as a cause.

Post-SARS, one of the emergency room nurses reflected on how the different levels of training likely contributed to the difference in the numbers of staff who were exposed and who became ill with SARS:

> For some reason, not one nurse in emerg contracted SARS, not one, yet the 4 West nurses did, because that was a little different. Those people who were exposed, I think it was because they had improper education [on] and understanding of isolation.

The story of 4 West underscores the importance of regular, mandatory education and training programs for workers on the use of personal protective equipment and on hospital policies, such as isolation protocols. It shows the challenges associated with isolating and using precautions when treating the very ill, the scared and the elderly. It also shows that during an outbreak of an infectious disease in a health care institution, suspicion for new cases and awareness about the disease must be emphasized in all areas of the hospital. As 4 West showed, there is no such thing as a "low risk" or "safe" area, especially in a hospital that has SARS patients.

Were Concerns Raised by Staff?

Hospital officials told the Commission that they were unaware of any problems on 4 West until May 23, 2003, when news of the second outbreak broke. However, as noted above, many of the 4 West nurses interviewed by the Commission said they were aware of an increase in respiratory illnesses and/or deaths on the unit, either through their own observations or through discussions with colleagues.[702] Many of these nurses believed that concerns were raised about these patients to management and/or physicians and that nothing was done to investigate their concerns. This has contributed to a feeling of mistrust among staff, as some point to it as an example of senior management's not listening to nurses.

The Joint Health and Safety Committee reported anecdotal evidence that illness on 4 West among staff and patients had been ignored:

> Other health care workers on 4W would comment, … so many patients died of pneumonia on 4W (over 10 in 2mos.) … they should have investigated for SARS.(Phase 1 –Interview # 23). Another would comment, "Patients were dying with respiratory illness. We were told not to worry, it's not SARS." (Phase 1 Interview #24) Another comment, *"Concerns about why so many patients were dying with respiratory symptoms were not investigated promptly."* (Phase 1 Interview # 24) *"I had nursed patients with respiratory problems who later died. I was told after I had been admitted into hospital that these patients died of SARS … Patients with respiratory illness were not investigated properly. There were 6 or 7 deaths in a matter of a few weeks. When concerns were raised by us, nobody listened. We were told they are elderly and what do you expect?"* (Phase 1- Interview #26) Another HCW stated, *"We had approx. 10-11 patients die of pneumonia and we mentioned it to the U.A. who I hear asked DR. and felt it was nothing. Staff began to get sick, 5-6 sick calls a day and U.A. said it was a bug going around. If it had been looked into when patients started to die this would not have been such a big outbreak and people might not have died."* (Phase 1 – Interview # 39) *"Massive death within short period of time, which had never happened before."* (Phase 2 – Interview).[703]

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[702] As noted earlier, not all of the nurses from 4 West reported an awareness of problems on the unit. Some 4 West nurses said they were unaware of problems on the unit until May 23, 2003.

[703] JHSC Report, at p. 46.

Some nurses who did report to the Commission that they were aware of problems on the unit, either through their own observations or conversations with others, said they did not raise concerns with anyone themselves and did not know if anyone had raised concerns with the manager or any hospital official. For example, one nurse reported being aware of problems on the unit but did not know if anyone raised concerns with the manager or anyone else:

> I don't know if anybody actually went to her and said it to her. But I know that was one of our concerns, but did anybody go to her and actually say to her that we have so many deaths, what are we doing about it? … Their connection was just not there … I didn't know if anyone had actually gone to her [the unit administrator] and said, so and so, so and so. I don't know if anybody had actually gone to her and said it.

However, a significant number of nurses interviewed by the Commission stated a clear belief that concerns had been raised with the manager, although almost all reported that they were not present when the conversation took place. They understood from colleagues that the manager was aware of the problems on the unit. For example, one nurse from 4 West recalled staff being alarmed because of the number of deaths and reported hearing that a colleague had raised concerns with the manager:

> I didn't know what the ratio was for patients dying in that area because I came from [another] site, and I could remember the other staff members, they were all alarmed, why we were having so many people dying on the floor. People came in with a fractured hip and broken bones and usually they would recover, go to rehab and be okay. But many of them were dying with respiratory problems. In conversation with one of my co-workers, she said that she had mentioned it to the manager, why so many people are dying, and her response was that they are old … [The nurses] were concerned.

Another nurse, when asked if she noticed an increase in the number of deaths, reported a similar scenario of awareness and belief that someone had raised it with the manager. She believed that concerns had been raised with a doctor as well, although she did not know which doctor. She said:

Question:	At some point during April or May, did you ever notice that there seemed to be a higher than normal number of deaths on the unit?

Answer: Yes, because during my night break, we were kind of talking about it, like "do you remember this patient? She passed away last week." And they said, "really," and then during that week, another patient died, again, and then somebody died, and so many deaths.

Question: Did you ever raise that with anybody, your manager?

Answer: My manager was aware at that time and I heard from my colleagues, I don't know, I can't remember which colleagues I was talking to, but the doctor knows about it but they can't find anything. They thought it's plain pneumonia and they're on antibiotics and puffer and nebulizer, whatever.

Question: So you heard about it from your colleagues. Did you, yourself, ever talk about it with your manager?

Answer: I was on night shift so I didn't see her.

Question: So when you say that your manager was aware of it, is that something that someone told you, or is that because you actually talked about it with your manager?

Answer: I did not talk to her. Somebody talked to her about it.

Question: Do you know who that person is?

Answer: I don't know, because I just heard from, when we were kind of sitting down in the nursing lounge and then somebody said that [the unit administrator] knows and she talked to the doctor.

One nurse recalled a meeting between the unit administrator and staff where the issue of deaths and illness were raised. She could not recall the date of the meeting or who was present but was certain that the issue of increasing deaths and respiratory illnesses on the unit was raised. She said that at the meeting the question of SARS was not raised and that although she recalled concerns about the increase in deaths and illness, she did not remember anyone connecting it to SARS at that time. This nurse reported that she also noted that a lot of patients had respiratory problems, but post-operative fever or pneumonia was not unusual and SARS did not cross her mind:

> I noticed it, but on our floor, surgery, some of them spike fever, post-op. So initially you may not think that it's pneumonia or whatever because it's a complication of surgery, especially if they tend to be feverish, especially when they don't deep breathe and cough.

Another nurse reported discussing the deaths with a charge nurse, but the explanation given was that the patients are elderly and have medical problems:

> I heard that some nurses talked to the head nurse and talked to the nurse in charge at the desk about these deaths, because there were just so many pneumonia patients who died. And the charge nurse said that, actually, I was there when one of the nurses told her about it, and she said, well, they're old and they have past medical history, so they're expected to die.

Others nurses reported hearing rumours that colleagues had raised SARS concerns with doctors or that the manager had raised concerns with one or more doctors:

> I heard later that the nurses mentioned concerns about SARS, but the doctors they just, maybe wishful hoping, denied it. I didn't hear it from them directly, I just heard a rumour like that.

Another 4 West nurse reported being aware of an increase in deaths on the unit and a belief that concerns were raised with the doctors, although she did not know with whom:

> There seemed to be lot of illness and death. To be honest we did talk about it, and I think the nurses did tell the doctors, but that is just what I was told. The main excuse was these patients are elderly and they have problems and that dying is natural. But we said it is unusual. Even on the 8th floor [the geriatric unit] we did not have that many deaths. Here [on 4 West] every time I went in it seemed someone had passed away on the day shift or the night shift.

None of the physicians interviewed from 4 West recalled anyone identifying the high rate of illness and death among patients on the unit prior to the discovery of the second outbreak. Infection control staff also told the Commission that they were unaware of the high rate of illness or an increase in the number of deaths on the unit.

There is no record of anything being raised in respect of 4 West in the minutes of the SARS Task Force/Management Committee. Toronto Public Health reviewed their call logs and did not locate any reports of unusual illness or deaths on 4 West by any staff member at North York General Hospital.

One physician who cared for SARS patients noted that, despite the perception that warnings were unheeded, to his knowledge no one raised the alarm in respect of the patients on 4 West:

> Given what we now know about the index case and how it was, I think that would have been a very, very difficult thing. I know there are physicians or nurses that are saying, there was this funny cluster of deaths that we couldn't really explain. But I don't remember hearing anything about that. I don't remember hearing anybody at the time saying, this funny thing is happening on 4 West … There was no talk about anything at the time that people were worried about. A lot of people I guess have come up retrospectively, I remember thinking, but at the time there was nothing, there was absolutely nothing that I recall being concerned about or worrying about.

The Joint Health and Safety Committee at North York General Hospital investigated reports of health workers that concerns were ignored and found:

> It remains uncertain how concerns regarding an increasing number of deaths and possibly numbers of patients with respiratory symptoms and/or pneumonia were escalated by the health care workers on 4W or by the UA [unit administrator]. We have the statements of the staff on 4W that issues were raised with the UA. No one we interviewed from Infection Control, the administration or the doctors claim to be aware of any concerns being raised on 4W prior to May 23rd. During the transition period prior to recognition of the SARS outbreak on May 23rd, the UA's were supposed to be meeting each week on Wednesday. Problems were then reported to the SARS Management Team. There is no evidence from the minutes of the SARS Management Team that there were any problems on 4W. The immediate supervisor of the 4W UA states that nothing unusual was reported to her.[704]

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[704] JHSC Report, p. 46.

It is difficult to reconcile the perception of health workers that events were reported with the absence of any documentation of such reports or any recollection by anyone that such a report was made. It is difficult to determine with certainty who said what to whom at the time. The difficulty is compounded by the fact that because there was no system allowing for whistle blowing and no record-keeping of concerns raised by front-line staff, accounts of reports to others are based on individual perceptions which may or may not be tempered by the benefit of hindsight and must therefore be approached with caution. For example, one nurse reported to the Commission that she knew a colleague had raised concerns with the manager. When the colleague, who was identified by the nurse was interviewed, she reported that she had not spoken to the manager herself. She was also under the impression that another colleague had raised concerns with a manager, but she was unable to recall which colleague did so.

It is impossible now to say with certainty what was in the minds of all those involved at the time. There is the further difficulty of separating hindsight and rumour from actual recollection.

The unit administrator was unable to be interviewed by the Commission and was therefore unable to respond to any of the comments made about her or to provide her perspective on what transpired on 4 West. But there is no evidence that anyone in charge on the unit, including the unit administrator, knew these patients had SARS and failed to report them as such. While many nurses said they thought the unit administrator was aware of the illnesses and deaths, there is no evidence that SARS cases were identified to her and that she failed to respond. It would be unfair to hold the unit administrator or any other supervisor at fault for what happened on 4 West. No one identified the cluster of SARS cases, including doctors. It would be unfair to suggest that the unit administrator should have known what no one else did, that these were cases of SARS.

Despite rumours that 4 West staff identified and reported suspected SARS cases prior to the second outbreak, the Commission found no evidence of any such report. Nor is there any evidence that any physician detected or failed to report any suspected SARS cases.

There is no evidence that doctors identified cases of SARS on 4 West and then failed to report or raise concerns to hospital officials or to Public Health. The Commission does not doubt that had the doctors who were caring for these patients during April and May suspected SARS, they would have reported their concerns and managed the patients accordingly. They would not have put themselves and others at risk.

Had a physician identified an outbreak of respiratory illness on 4 West, he or she would have been obliged to report such a belief to hospital administrators, to enable the hospital to meet its reporting obligations under the *Health Protection and Promotion Act*. Since SARS was not only a reportable disease but also a communicable disease,[705] physicians had a legal obligation independent of hospital administration to report to public health if they formed the opinion that a patient is or may be infected with an agent of a communicable disease.[706] As Dr. Wallington told the Commission:

> My understanding is at that time, if SARS was even considered as a diagnosis, it should have been reported. SARS was not considered as a diagnosis in any of these cases and so they weren't reported. It was an outbreak, it was a cluster of respiratory illnesses, so technically, under the reporting requirements, respiratory outbreaks in facilities should be reported. Having said that, when you look at the charts of the individuals on 4 West who were sick before we got there, there were good alternate diagnoses, and so perhaps one could argue that everyone had their own reason for having this pneumonia and maybe they weren't all linked and maybe that's why it wasn't reported as a respiratory outbreak. It would have been very helpful for us, considering the numbers of sick people in one ward and the deaths that were associated, to have known about it.

There is also no evidence that health workers on 4 West identified SARS patients to senior management or those in charge of the SARS response. There is no evidence to suggest that senior management or those in charge of the SARS response ignored reports of SARS cases on 4 West or that they failed to respond to such reports. When Dr. Wallington was asked why the hospital couldn't take steps to control the outbreak earlier, such as steps that were taken to control the outbreak at St. John's Rehab once a cluster of illness among patients was identified, she said:

Question:	You made a note on May 21st, four others at St. John's have fever, recommend the ward close, active surveillance of staff and patients, active surveillance of what people were getting sick, contact to inquire about sick staff …

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[705] Ontario Regulation 559/91, amended to O. Reg. 365/06, Specification of Communicable Diseases.

[706] Section 26. A physician who, while providing professional services to a person, forms the opinion that the person is or may be infected with an agent of a communicable disease shall, as soon as possible after forming the opinion, report thereon to the medical officer of health of the health unit in which the professional services are provided. *Health Protection and Promotion Act* R.S.O. 1990, c. H.7, s. 26.

Dr. Wallington: Yes.

Question: … and actually look after the ill staff, couldn't North York General have taken that kind of step much earlier, as soon as they had questions about sick health care workers – some on 4 West, they had the psychiatric patients, and they had the Patient A family cluster. Why couldn't North York General before May 23rd have taken the steps that you took immediately on May 21, in respect of St. John's?

Dr. Wallington: I think part of the issue, in retrospect, was that they were not aware, I do not think the administration was aware of the outbreak that was occurring. It was an outbreak that went undetected.

Question: The outbreak of febrile respiratory illness on 4 West?

Dr. Wallington: Yes, it was not identified or labelled as an outbreak. They were individual cases, individual patients who were being managed according to their clinical diagnoses, so it was not declared an outbreak. And I think that is why the measures that you are alluding to were not taken, because I know at the senior level they were not aware.

Hospital administration had a legal duty to report not only suspected cases of SARS but also an outbreak of respiratory illness. Senior officials and those in charge of the SARS response at North York General understood their obligations. The Commission does not accept any suggestion that senior management or hospital officials would have ignored cases of SARS or that they would have deliberately put patients, visitors and staff at risk. The Commission is satisfied that had North York General officials and members of the SARS Task Force/Management Committee been aware of the possibility of SARS on 4 West, they would have sought the advice and assistance of Public Health and would have taken measures to ensure the safety of staff, patients and visitors to the unit.

While it is impossible in retrospect to know what exactly transpired on 4 West, the Commission finds that some of the staff who worked on 4 West did have concerns at the time about the number of deaths and respiratory illnesses and that there was no effective system to bring those concerns to the attention of someone who had a clear duty to investigate their concerns, to report back to staff on the results of their investigation, and to satisfy front-line staff that their concerns were heard and that something was being done to address them. Whatever concerns arose at the time among front-line staff, those concerns did not make their way up the chain of command.

The Commission does not doubt the credible and sincere accounts by the many staff who reported being aware of an increase in deaths or respiratory illness on the unit. But there was nothing in place at the time to capture the concerns of front-line staff in a concrete way. As the investigation by the Joint Health and Safety Committee concluded:

> We were never sure of exactly how or when the nurses or other health care professionals on 4W escalated their concerns. It is believed that the UA of 4W took concerns to doctors, but to which ones, we are not absolutely certain although names have been suggested. It is easy to understand why the doctors may not have reacted. This is conjecture but we are thinking that concerns may have been brought in isolation to different doctors at different times and no connection may have been made. Also, it is traditional to bring concerns to doctors, since they are thought of as the ultimate authority in the medical model. However, this emphasizes to us the need to always document concerns in writing and to bring these concerns to the administrative side of the hospital as well as to the medical side, since the consequences immensely affect the administrative side of the hospital.
>
> We must not have medical silos which are separated from the administrative side of the hospital. The administrative and the medical sides of the hospital must become integrated as they are part of the same organization and key people on the administrative side must be kept up to date on all important developments, including medical ones, during or after an outbreak.
>
> As well, we never saw any indication that a specific nurse brought concerns to the attention of a specific individual other than the UA. There is no mention of Infection Control being notified of any problems and they confirmed this in their interview. There were never any "I" statements, such as I did this or I did that. The bottom line is that everyone is responsible for infection control. The question is how do we as an organization enable and empower individuals and how do we encourage leadership at every level within the organization? Tackling diseases, such as SARS, requires immense leadership and co-operation from everyone.[707]

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[707] JHSC Report, p. 47.

Because there was no system to ensure the effective reporting of concerns to senior officials in the hospital, concerns of front-line staff did not seem to move past the unit level. The SARS Field Investigation into the second phase of SARS also identified and stressed the need for strong feedback mechanisms to address staff concerns as part of a multi-faceted approach to infectious disease control and outbreak prevention and management.[708]

During an infectious disease outbreak, it is important to have strong feedback systems between front-line staff and senior management, but it is also important that front-line staff have the power and protection to report public health concerns to public health officials. As the Commission found in its second interim report, *SARS and Public Health Legislation*, there must be strong protections for employees who report a public health risk:

> Any health care worker should be free to alert public health authorities to a situation that involves the risk of spreading an infectious disease, or a failure to comply with the Health Protection and Promotion Act. Public health officials do not have the resources to be present in every health care facility at every moment. While one would expect that a facility administrator, infection control specialist or practitioner would report to public health officials situations or cases that might risk the public's health, the cost of nonreporting or inaction is too high. In the event of such a failure to report, regardless of its cause, it is not enough to hope that public health officials will stumble across the problem eventually. SARS and other diseases clearly demonstrate the importance of timely reporting of a risk to public health. Health care workers can be the eyes and ears of public health and the front line protectors of the public's health. They must be free to communicate with public health officials without fear of employment consequences or reprisals.[709]

The Commission finds that the problem on 4 West was not a failure by senior hospital officials or those in charge of the SARS response to listen to nurses or to heed warnings. It was, however, a failure to have in place a system whereby concerns of front-line staff were documented and reported to someone with the time, resources, authority and responsibility to investigate, take action and report the results of their investigation and any actions taken back to staff, management and senior hospital officials.

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708. SARS Field Investigation, p. 28.

709. SARS Commission, second interim report, p. 248.

Spread of SARS Among Health Workers on 4 West

On May 7, 2003, the hospital, in accordance with provincial policies, began relaxing precautions in certain areas of the hospital. This meant that staff were no longer required to wear masks at all times when in the hospital or when providing care to patients. The relaxation of precautions included the 4th floor at North York General, where the orthopedic unit was located. The 4th floor was also home to the short-stay surgical unit. It too was an area of the hospital where precautions were relaxed following the May 7 directive to staff.[710]

We now know that as May progressed a number of staff from 4 West and 4 South, as well as a number of physicians who either worked or consulted on the 4th floor during May 2003, became ill with SARS. It is clear from the onset of illness among staff that as precautions came down, the number of SARS cases, particularly among staff, went up.

When precautions were relaxed on May 7, 2003, not all staff on 4 West removed their equipment. However, some staff did remove their protective equipment, trusting what they were told, that SARS was over, and believing that they were safe. As one nurse said:

> For weeks we weren't wearing anything … they told us that we didn't have to wear anything. We had no protection. Because we were told we didn't need to, everything was over … there were directives from the government, the directives would come up on the email, the hospital sent us things, the supervisors told us.

Wearing the masks made work conditions difficult, at times almost unbearable. Many nurses and doctors said that they were relieved when they were told they could remove their equipment. As one nurse candidly told the Commission:

> We were all tired of wearing this equipment, we were all getting headaches every day.

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[710] See the earlier section titled "Relaxation of Precautions", for a more in-depth review of the relaxation of precautions at North York General Hospital.

One 4 West nurse described how, even after some initial hesitation, she was relieved to remove the equipment and finally did so:

> I didn't [remove the equipment] when they first said we could. I probably wore it for another day or two. It was so horrible wearing all of that stuff, I did take it off finally.

One 4 West physician described his relief when he learned he no longer had to wear protective equipment:

> I recall that [when masks came off], because we were all so relieved. I don't recall exactly, but I recall a time that it was intimated SARS is over, we can take the masks off, we don't need to have any precautions, and it was just such a relief. You can't imagine how difficult it was, working eight-hour shifts with those masks and gowns on. I couldn't wait to get outside to take it off for a second. The second they told me to, I did.

Others, like Ms. Nelia Laroza, a 4 West nurse who died of SARS, worried that SARS was not gone and continued to wear the equipment.[711] Ms. Laroza was exposed to SARS sometime between May 7 and May 16, when she fell ill from SARS. She died on June 30. As one nurse described Ms. Laroza and her approach to protection:

> We took our breaks together a lot, and I remember joking with her. I said, oh, Nelia, you will never catch anything. Because she just was covered completely.

Another nurse described Ms. Laroza's precautionary approach:

> She was our co-worker, we laughed with her, we cried with her, we nursed together, we did a lot of things together, and she was very afraid that she would get SARS and she double-gloved from the very beginning. And when the memos came around, you don't have to wear a mask, she wore everything. We didn't wear masks. She was very, very protective of herself.

By all accounts Ms. Laroza was a careful, cautious nurse who continued to wear the protective equipment even after the precautions were relaxed in the hospital.

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[711] Although most SARS victims are identified in this report by anonymized initials, Ms. Laroza's name is used because her tragic death has been widely reported in the public domain.

Ms. Laroza was not the only nurse on 4 West who chose to continue to wear protective equipment past May 7. Other nurses made the same decision, despite provincial and hospital policies that said they were no longer required to do so. One nurse who worked on 4 South, the short-stay surgical unit, told the Commission:

> We wore everything. Whenever they told us to start, I can't remember what day we started it, but whenever we were told to start, we did. We wore everything right up until whenever they told us we didn't have to. And lots of nurses wore it after we didn't have to, for a while. And a lot of the nurses on the 4 West side did, more than on our side. I guess they just didn't feel comfortable taking it off.

But there was no consistent approach, as each individual nurse determined his or her own level of protection. As one 4 West nurse said:

> I remember I went in one morning and we were told that we were not allowed to wear masks anymore. We don't have the masks, gown, and gloves anymore, and that was told to us as we reached the main entrance to come in. So I said, well, I'm going to still wear it, so I still put my mask on there. I put it on, I put on my things, I went up to the floor and did my normally change as we would, put on your stuff and I went about my duties.
>
> And when I walked on the floor, I saw some of the nurses not wearing a mask or gown or anything and I said, why aren't you guys wearing your stuff. They said to me that we're not required to wear them anymore. I turned to them and I said, I don't think we're out of the woods yet, so if I were you, I wouldn't have jumped and taken off my stuff yet because we're not sure how it's spreading, what's going on. Even though we get the go-ahead from Public Health not to wear our stuff,[712] I think for our own precautions, we should still wear them. Well, their [the other nurses'] reply was that if they don't have to wear, they don't see why should they wear it.

Some 4 West nurses reported that when they wanted to continue to wear protection, supplies were not always readily available. One nurse, who was caring for an ill patient on May 22, the day before news of the outbreak was announced, recalled worrying that something was very wrong with the patient. She decided to wear a mask while caring for the patient. But the only mask that was available to her was a surgical mask. Other nurses similarly reported that after the policy was announced to relax precautions, masks and other equipment became scarce on the floor.

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[712] Public health officials said that they were not involved in the decision to relax precautions in the hospital, and that that was an internal hospital decision. See the earlier section titled "Relaxation of Precautions".

Along with concerns about availability of protective equipment, some nurses who continued to wear protective equipment after May 7 reported feeling pressured to remove their equipment. One nurse reported feeling pressure to remove the equipment after May 7:

> My boss said to me, why are you still wearing your mask and stuff? I said to her, I don't think we're out of the woods yet. She said, you guys are making yourself sick because you're re-breathing in your carbon dioxide.

Another nurse recalled overhearing a manager admonish a nurse for wearing the equipment:

> But I remember specifically being in the hall one day and she said to one of the nurses on their side, when are you going to stop wearing that stuff, because you don't need to wear it, and you're just going to be scaring the patients. So we were really being encouraged to not wear it.

Another nurse described the pressure she felt to stop wearing protective equipment, and her belief that it was safe to do so:

> Answer: Things started dying down. As far as we knew, there weren't any diagnosed cases on the floor, anybody in isolation on the floor, and we were told that we could stop wearing our protective gear. Not everybody did immediately. There were some of us, including myself, who were a bit scared to take it off, so I kept it on for maybe a day or two, and then gradually took it off.
>
> Question: So after about a day or two, you followed what everybody else was doing, and took it off?
>
> Answer: Yes, because everybody else was taking it off. Actually, it was kind of getting embarrassing because people would come on the floor and say, what are you still doing in

> this, don't you know you are not supposed to be wearing it anymore?

It is important to note, however, that this was not the experience of all health workers on 4 West. Some nurses interviewed by the Commission said that they did not feel pressure to remove the equipment and that the decision about protective equipment was theirs to make. One nurse said the choice of whether to use protective equipment was her own:

> It's not really the pressure [that caused her to remove her equipment] but I think it's my own decision.

Another nurse from 4 West who continued to wear a mask when doing certain procedures or close patient care said that she never felt pressure to do otherwise and that she never had trouble finding a mask:

Question:	So did you feel at that time that if you wanted to put a mask on you could?
Answer:	Yes, I did.
Question:	And were there masks available on the unit?
Answer:	There were masks available on the unit and I think still in the main entrance because some of the units, they still had the policy [to wear masks at all times].

As noted earlier, the unit administrator was unable to be interviewed by the Commission and was therefore unable to respond to staff reports of unavailability of equipment and of pressure to remove the protective equipment. It is important to note that there is no evidence that the unit administrator was aware of any risk to staff, visitors and patients on the unit, or that she believed there were SARS cases on the unit.

Despite the continued use of protective equipment by some nurses, no one working on the unit was safe from SARS. Even nurses who continued to wear the protective equipment, like Ms. Nelia Laroza, contracted SARS.

Because there was no rule in place requiring the use of masks at all times, and because the nurses on 4 West believed SARS was over and that they did not have any SARS patients on their unit, even those who decided to continue wearing a mask did not always do so. One nurse explained her approach to the use of protective equipment:

> I was wearing my mask, but I know they told us when the first outbreak cleared, and there were no more cases. They said, we've got a directive that masks can be removed.[713] It's okay not to wear the mask anymore. Everybody was happy because it's so horrible when you're wearing it and you can't breathe. But I did not remove my mask, because during that time some of my patients were coughing and they had pneumonia-like symptoms. I didn't want to get sick.

When asked if she wore the mask all the time, she said:

> Out of 100 per cent, I'd wear it [the mask] 80 to 85 per cent. If I removed it, maybe I'm eating, or my patient is really, really stable, they're not that bad and don't have respiratory symptoms.

When asked if she would wear it if she was just at the nursing station, she said:

> I wore it but I removed it on and off. Because it gave me, I'd feel light-headed already for the whole 12-hour shift because I'm on 12 hours. So we didn't leave the mask on, but by the ninth hour, I'd be light-headed already.

The varied approach to the use of protective equipment potentially exposed 4 West staff to SARS through contact with patients, visitors or other staff. One nurse, who reported that she, like Ms. Laroza, continued to wear protective equipment at all times when dealing with patients yet contracted SARS, told the Commission that in addition to contact with others, there were many other places where they could have contracted SARS in the unit:

> Between me and her [Ms. Nelia Laroza], we wore a mask all the time so my conclusion then is that if we picked it up, then it had to be anywhere between the nursing station, because if it's droplet then mask goes off, people talk. So we could pick it up from there. Or even by the med sheets, because we have to use those med sheets, everybody used them.

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713. The directive from the hospital telling staff (in some but not all areas of the hospital) they were no longer required to wear masks was issued on May 7, 2003. See the earlier section titled "Relaxation of Precautions".

> So it could be on the med sheets also, or the cardex that people use and stuff like that. The patients charts are on the door, it's outside the room door, so you finish inside and you come out and you just pick it up from there and you do your charting, but that week when there were no masks or anything being worn, and you come out of that room, you could have been coughing and it just landed on the book or whatever you're doing, and then somebody else comes along, picks it up and signs on it or whatever it is that you have to do.

It is believed that droplets can contaminate the surfaces and articles on which they land. As the Healthcare Health and Safety Association of Ontario noted:

> … viable organisms may survive long enough in droplets deposited on environmental surfaces to contaminate the hands of caregivers and then be further transmitted.[714]

Infectious disease experts recognize the possibility of transmission of SARS through objects contaminated by droplets, known as fomites. A May 2005 article by the Centers for Disease Control and Prevention found:

> Epidemiologic features of SARS provide keys to its diagnosis and control. The pattern of spread suggests that SARS-CoV is transmitted primarily through droplets and close personal contact (Seto 2003; Varia 2003). Studies documenting stability of the virus for days in the environment suggest the possibility of fomite transmission.[715]

Even those nurses who continued to wear protective equipment after May 7 removed their masks when outside of patient rooms, when interacting with each other, and when on breaks. This meant that a nurse could protect herself when in a patient room only to be exposed to SARS when she took a break with a nurse who had had unprotected exposure to SARS. As one expert told the Commission:

> At North York General, don't leave with the impression that everyone took their masks off. Even though the memo came out May 7th relaxing

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[714] Healthcare Health and Safety Association of Ontario, "Respiratory Protection Programs, Second Ediction," (Toronto: 2005), p. 1.

[715] CDC, "Public Health Guidance for Community-Level Preparedness and Response to Severe Acute Respiratory Syndrome (SARS) Version 2/3", May 3, 2005, p. 20

> precautions, many of the nurses were not comfortable doing that. According to a number of nurses and nurse managers, a majority kept their masks on when working with patients. Only a handful took their masks off. But we found out that the nurses were taking their masks off with each other.

On May 16, there was a Nursing Appreciation Breakfast at the hospital. Nurses from 4 West ate their breakfast in the small makeshift lounge described below. They were not wearing masks. Precautions had been relaxed on the unit for over a week by this point and, as noted above, even those nurses who continued to wear masks when providing patient care did not do so when simply interacting with colleagues, as they believed they were safe to interact with each other unprotected. The SARS Field Investigation found that this breakfast was a likely source of transmission:

> On May 16th, 2003, staff from 4W took food back from the NYGH Nurses Appreciation Breakfast event to the small staff lounge on 4W and ate there. Two of the nurses on 4W working that day were unknowingly infected with SARS.[716]

Of those nurses who told the Commission that they continued to wear the protective equipment after May 7, none had been fit tested or instructed on the proper use of the N95 respirator. This meant that they could have been wearing a mask that did not properly fit their face or wearing the mask improperly, potentially negating the protection afforded by the mask. For example, one nurse reported that although she continued to wear a mask after May 7, she did not learn until her fit testing in September that she was wearing it improperly:

> We were told that we didn't need them, but I felt somewhat uncomfortable, so I would kind of wear mine around my neck and then when I went into a patient's room would put it on. But now, as of September [2003], I had the mask fitting test and I'm told that is a total no-no because you're infecting yourself if the outside of your mask has touched with clothing and then going up near your face. So that's another thing, I was never mask fitted and we were never instructed on the proper use of the personal protective equipment.

Another 4 West nurse reported that she wore tissue between the mask and her face, because she had an allergy to the mask. She too was unknowingly compromising the protection afforded by the mask.

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[716] SARS Field Investigation at p. 18.

While it is clear that the relaxation of precautions led to the spread of illness among staff, the makeup of the unit also potentially contributed to the widespread transmission of SARS on the unit. During this time the hospital had been under renovations, including the 4th floor, and space was limited. Nurses from 4 West described the unit as cramped and expressed frustration about the conditions of the unit. One nurse described the situation:

> This specific unit, 4 West, had two units on it. I think that they were renovating and they had put two units together, and the nurses at one point were sharing one of the patient rooms as a lounge. Then they built them a makeshift room for a lounge in the middle, outside of the unit, with a curtain around it. It was out, it wasn't a room, there wasn't a ceiling, it was just like a little makeshift portable, connected to the unit.

The report of the Joint Health and Safety Committee described the conditions in 4 West:

> 4W/S was repeatedly described as cramped and cluttered since two units were combined. There were too many people in too small of an area, which would have created an excellent environment for SARS to spread from person to person once PPE precautions were relaxed. Since the nursing station and halls were cluttered, this would have severely hampered efforts to clean surfaces properly, which is absolutely essential in controlling SARS as this virus can live on surfaces for hours. As well, 4W/S had a makeshift staff lounge, approximately 11' by 14' with no sink for people to wash their hands. Staff on the night shift also slept side by side in this small room which provided further opportunity for the spread of SARS.[717]

It is important to emphasize that staff on 4 West did nothing wrong by removing precautions and working unprotected. They were told that it was safe to do so. But we now know that it was not safe. As precautions came down among the crowded conditions of 4 West, SARS spread. Health workers became ill. The continued use of personal protective equipment at the discretion of individual health workers on 4

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[717] JHSC Report, at p. 48.

West did not stop the undetected spread of SARS at North York General. As the investigative report of the Joint Health and Safety Committee concluded:

> These *"early 4W cases subsequently ignited a chain of transmission, spreading to other patients, their visitors and hospital workers."* (TPH/HC Report p.17) This chain of transmission would be directly linked to relaxed SARS precautions. At this point, PPE was optional except when dealing with patients on droplet/contact precautions and people didn't have to sit a metre apart while eating food. Some of the HCW's on 4W, such as Nelia Laroza, would choose to continue to wear their masks except while eating. The TPH/HC Report states that: *"Among hospital workers, cases began to escalate within 10 days (one incubation period) of the relaxation of precautions."* (p.17) The report goes on to add that two nurses on 4W *"unknowingly were developing SARS symptoms"* on May 16. (p.17) It is interesting to note that PPE must have been effective since HCW's on 4W were not getting sick until after its use became optional.[718]

There were clearly different experiences among health workers with respect to the availability of equipment and the support from colleagues and superiors for continuing to use the protective equipment if they chose to do so. But the reports from health workers who felt some measure of pressure, whether through lack of equipment or through pressure from others to remove their equipment – subtle, direct, well-meaning, or otherwise – are troubling. During a public health crisis, no health worker should be discouraged from using the approved protective equipment and infection control and worker safety procedures he or she believes are necessary for protection. While there is no evidence to suggest that senior management or those in charge of the SARS response discouraged the use of protective equipment, the stories of those health workers who felt reluctant to protect themselves underscore the important responsibility that senior managers have to ensure that no one is discouraged, directly or indirectly, from taking reasonable steps to protect themselves.

The story of 4 West also underscores the importance of ensuring that staff are trained in the safe use of personal protective equipment, are aware of its limitations, and, in the case of N95 respirators, are fit tested. These are requirements of the *Occupational Health and Safety Act* and Health Care Regulations 67/93, and they predated SARS. Unfortunately, in a major systemic flaw, few in the health sector were aware of them before and during most of SARS. To compound this problem, not enough was done during SARS to alert hospitals to their worker safety obligations. It was not until a set of directives was issued on May 13, 2003, that the legal requirement of fit testing was explicitly communicated to hospitals. And, unlike in B.C,. where the first proactive inspections were conducted in early April 2003 to ensure that worker safety requirements were implemented, the Ministry of Labour did not proactively inspect SARS hospitals until June 2003. By that time, the outbreak was virtually over.

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[718] JHSC Report, p. 41.

As precautions were relaxed, health workers on 4 West were exposed to SARS and began to have symptoms. But the illness among staff did not raise alarms until May 23, the day the second outbreak was discovered. In the wake of SARS, the question remains, was the illness among staff detected and, if so, why wasn't anything done about it?

Sick Calls

As precautions came down, SARS spread throughout the orthopedic unit at North York General Hospital. According to provincial records, the first ill health workers on 4 West developed symptoms on May 16. On that day, three nurses from 4 West developed SARS symptoms. By May 19, two nurses from 4 South, a nurse from 4 West and a health worker had developed symptoms. On May 20, three more 4 West nurses were ill. On May 21, two physicians who had been on 4 West and another 4 West nurse developed symptoms. On May 22, another 4 West nurse developed symptoms. This meant that by the morning of May 23, twelve health workers and two physicians had developed symptoms, all of whom were associated with the 4th floor at North York General Hospital.[719]

Many health care workers interviewed thought there were a large number of sick calls on the 4th floor leading up to the second outbreak and were angry that nothing was done about it. One nurse said:

> I was quite angry at the hospital, 4 West, I don't think they, of course, planned on anything, but they had so many sick calls of the nurses. Eleven sick calls, I heard that day, and how come they didn't think of it. You know, that time with SARS and everything in the public, how come they didn't think of it or suspected it.

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[719] Ministry of Health and Long-Term Care Line-List Records.

Senior management at North York General told the Commission that they were unaware of the cluster of illness among staff prior to May 23, 2003. Like the clusters of respiratory illness and the increase in deaths on the unit, illness among staff did not raise any alarms among senior hospital officials because they did not know about it. Despite the perceptions of some that senior hospital officials were aware of staff illness, they were not.

Senior management understood the importance of monitoring staff illness. A policy had been developed during SARS that each unit within the hospital was to report sick calls to the occupational health department, which in turn would report to the SARS Management Committee. The Joint Health Safety Committee described the process in their report:

> It was current policy at that time that each unit within the hospital was to forward a daily list of their sick calls (an absence due to illness form) to the Occupational Health Dept. This was to be done twice daily at specified times. Even if no one was ill, this form was still to be sent and if no one was ill, this fact was to be indicated. The Co-ordinator of Occ. Health, Sharon Robbins would follow up and report to the Command Centre.[720]

The coordinator of the occupational health department told the Commission that her department would then follow up with the sick calls to do surveillance.

A significant increase in sick calls was not seen until May 20. This was confirmed by the findings of the Joint Health Safety Committee investigation. As part of their investigation, they accessed pay cards, to determine when there was a noticeable increase in staff illness:

> The subcommittee obtained the pay cards from all staff from 4W/4S through the Human Resources Dept. All names were removed, except that of Nelia Laroza, to ensure confidentiality. Nelia's name was left because we had to establish that she had worked on 4W during the critical months of April and May, 2003. From her pay card, we saw that Nelia had worked full-time on 4W during those months and that she had never been ill prior to contracting SARS. We were unable to see a significant increase in the number of sick calls until May 20, 2003 when there was a total of 5 sick calls from the two units, bearing in mind that each

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720. JHSC Report, at p. 42.

> unit operates independently, having, separate unit secretaries and separate UA's.[721]

Between May 20 and May 23, the increase in sick calls among staff on 4 West failed to raise the alarm. The coordinator of the occupational health department reported to the Commission that they were not notified of any staff illness on 4 West until the morning of May 23, 2003. The occupational health coordinator told the Commission that they did not receive any sick calls for 4 West for the month of May:

> Answer: 4 West, I didn't receive any all month.
>
> Question: You did not receive any from 4 West all month?
>
> Answer: Yes.

The Unit Administrator for 4 South reported that prior to May 23, only one staff member had called in sick. She told the Commission that two other staff members were also off work, but one had been off for two months and had previously been cleared as non-SARS-related. The other was on scheduled time off, although she was home ill and was later was identified as a SARS case.

The investigation by the Joint Health and Safety Committee at North York General also found:

> In an interview with the U.A. of 4S, who had staff off sick with SARS, this U.A. stated that she ensured that this list was being sent daily. If she didn't send it, then the charge nurse would. However, it is clear from the records kept in Occ. Health, that these forms were not always either being sent from 4S or being received by Occ. Health. Either way, there was a problem.[722]

The unit administrator of 4 South said she had understood that sick-call reports were being forwarded and she did not know why sick reports from her unit were not forwarded to the occupational health department.

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[721] JHSC Report, p. 41.

[722] JHSC Report, p. 42.

This system for surveillance of staff illness did not work. Had it worked, staff would have understood the importance of ensuring that the reports were made to the occupational health department. The occupational health department would have had the resources to monitor and ensure that the reports were provided, and to report to management instances of noncompliance with the policy.

It is also important to note that the monitoring of sick calls by the occupational health department would not have caught all the cases of the nurses who were at home, ill with SARS symptoms, but who were not scheduled to work and therefore would not be required to report their illness to the hospital.

Surveillance for clusters of illness among health workers during SARS was an important precautionary feature. Particularly in light of the relaxation of precautions, staff illness should have been a sentinel for problems. Any cluster of staff illness should have initiated an immediate, thorough investigation, including reinstatement of protective equipment, until the risk to other staff, physicians, patients and visitors had passed. As one physician from Toronto Public Health remarked:

> A large number of staff sick from the floor, regardless of the situation whatever was happening, whether they were sick patients, whether you think there is anything going on, any time you would get a number of health care workers sick on a floor, it would be cause for an investigation.

One of the most troubling things about the story of the nurses on 4 West is that although senior management and the occupational health department were unaware of the incidents of illness among staff on 4 West prior to May 23, the problem did not go unnoticed. How could it? Although sick call reports were not provided to occupational health, the fact remains that nurses did call in sick and that those in charge on the unit had to have been aware of the illness among staff.

One of the nurses who took the sick calls on 4 West the week of May 20 recalled being aware of the high number of sick calls and discussing it with the unit administrator. She told the Commission that no one wanted to think it could be SARS. She said:

> Answer: … I was getting the phone calls. And at first, a couple of sick phone calls, we didn't question them as to what was wrong with them or why they were, but then when we started getting more than one in, one almost every day, we started to phone them and, at that time, we did

ask them if they had a temperature and what their symptoms were, and whether they have a temperature or not, we directed them all to go to the emergency to be seen.

Question: And was this something that you were told to do or was this something you just did?

Answer: We had so many sick calls that we were having a hard time staffing the floor, that it just became that we had to do something and, I guess, deep down you didn't want to think that it was SARS, but somehow or other you suspected that it was.

None of the nurses who were ill the week of May 20 reported being told to go to the emergency department at North York General prior to Friday, May 23, the day the second outbreak was announced. Instead, they went to family clinics, some more than once, which subsequently resulted in the quarantine of hundreds of contacts. When the nurses were finally contacted and told to come to the emergency department for assessment on May 23, no one raised with them concerns that they might have SARS. More will be said about the poor communication with sick or potentially exposed nurses below.

One health worker told the Commission that she became aware of the cluster of staff illness and that she asked the unit administrator about it during the early part of the week of May 20:[723]

> I told my boss, I told [the unit administrator], I said, we've got 10 nurses sick on your unit, or was it eight, I can't remember how many. I said to her, what's going on? You have so many sick calls. She said to me, oh, it's okay, they're just all stressed out. I said, but that's a high number. I've never, ever seen so many nurses sick, you know, within a week. She said, oh, don't worry about it, everything's been taken care of.

This health worker understood the unit administrator's comments to mean that their illnesses had been reported and investigated. She said:

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[723] She could not recall the precise date but said it was either the 20th, 21st, or 22nd of May 2003.

> I thought that she called the people to see what their symptoms were. The occupational health department must have called them, because when you have this many nurses sick or staff sick on your floor, you want to call them and you find out what are the symptoms. If they all have the same symptoms, you want to investigate it. But if they all have different symptoms, then, well maybe there's something else going on.

Although the above-quoted health worker thought something was suspicious, she candidly admitted that she never thought it might be SARS:

> I felt something was not right but I didn't know what it was. But I never thought that this would be SARS in our hospital.

As noted earlier, the unit administrator was unable to be interviewed by the Commission and was therefore unable to respond to the events and comments reported above. It is important to point out that some of the 4 West staff interviewed by the Commission made positive comments about the unit administrator. One 4 West nurse described her as open and receptive to input about what was happening on the unit, and another nurse described her leadership and support as "great." Another 4 West nurse described the unit administrator as a quiet person who did not want to "rock the boat." She said:

> She was very, she liked to be in the middle of things. She didn't want to get anybody upset. She didn't want to do favours for anybody. She was just in the middle. She wasn't bothering you but yet she wasn't aggressive about anything, she was passive. And I didn't have any problem with her. I thought she was very good because nobody wants to have a manager who is constantly breathing at your neck and telling you what to do and following you around.

Whatever the unit administrator's role, it would be unfair to suggest that she alone was accountable for the failure to identify ill staff on the unit before May 23, 2003, or to use her as a scapegoat for the problems on 4 West. An important process like the surveillance of ill staff during an infectious disease outbreak should not fall apart because of one person. A system must be strong enough to overcome individual errors and it must encourage communication of concerns by middle managers to senior hospital officials.

Illness among staff, which should have been a sign that something might be wrong on 4 West, was not identified to hospital officials until May 23, 2003. The cluster of staff illness on the 4th floor, especially among staff working on 4 West, which should have been evident before May 23,[724] was not investigated, and important decisions about whether staff were at risk and how they should be protected were not made. Knowledge about the cluster of staff illness was not reported past the unit level. Regardless of whether the illness among staff was suspected to be SARS-related or whether those aware of it thought it was due to any other possible cause, it should have been reported and immediately investigated and steps taken to ensure the safety of staff working in that area. The system to monitor and investigate staff illness did not work. The occupational health department was uninformed about what was happening on the unit and lacked a robust system to monitor and enforce compliance with the policy.

In the end, the failure to monitor, report and investigate staff illness meant that another important step in the chain of protection, surveillance for illness among health workers, had broken.

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724. As noted above, the number of sick calls increased the week of May 20, with five nurses calling in sick between the two units. It is important to note that these numbers capture only those who call in sick for work. They do not include those health workers who were at home, ill, but were not scheduled to work and therefore would not be required to call in sick. According to provincial records, by May 20 there were 10 health workers from the 4th floor who had developed symptoms.

Clusters of Illness in the Emergency Department

By May 2003, Toronto was claiming a victory over SARS. Directives geared towards a "new normal" were issued and precautions were relaxed. Government and public health officials travelled to China to talk about the successful containment of SARS in Ontario. But SARS was not over. It had never ended. Rather, it lay smouldering in the orthopedic ward at North York General Hospital. While precautions were in place, transmission occurred primarily between patients who shared rooms. Once precautions were lifted, SARS quickly began to spread, among patients, visitors and health workers.

As SARS spread, some of the patients and visitors who had been exposed to SARS and who began to developed·symptoms came to the emergency department at North York General Hospital for treatment. Staff in the emergency department became increasingly alarmed in May as they saw cases admitted with respiratory symptoms that could be SARS. Of particular concern was the family of Patient A.[725] Patient A had been an inpatient on 4 West and had died on 4 West on May 1, 2003, during the first part of the SARS outbreak. After his death, his wife, daughter, son-in-law and grandchild were all admitted through the emergency department at North York General Hospital. Emergency room staff raised concerns about these cases but, as in the case of the psychiatric patients in April and early May, staff were told that these cases were not SARS. Like the psychiatry staff, the emergency room staff would later learn that their observations and concerns were correct: all of these family members had SARS.

Another family, Mr. and Mrs. O, came through the emergency department around the same time that the fourth family member of the Patient A family cluster (the granddaughter of Patient A) was admitted to hospital. Mr. O had also previously been an inpatient on 4 West. He was discharged home but developed pneumonia and was readmitted to hospital. His wife became ill and was also admitted through the emergency department at North York General Hospital, with pneumonia.

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[725] As noted earlier, the initials of the patients have been changed throughout the report.

Patient A, the four family members who were admitted to hospital, and Mr. and Mrs. O were all retrospectively classified as SARS after the outbreak at North York General was identified on May 23. On May 20, Ms. N, a former inpatient at North York General Hospital, was identified as part of a cluster of SARS at St. John's Rehabilitation Hospital. Ms. N had gone for rehabilitation following her discharge from North York General Hospital. Concerns about the Patient A family cluster and the link between the index case of an outbreak of SARS at another hospital to North York General Hospital was what led public health officials to North York General on May 23. The story of the investigation on May 23 and the details that led public health officials to North York General Hospital on that day are told later in this chapter.

From the story of these clusters of illness that came through the emergency department the during May emerge many of the same system-wide problems as were evident in the story of the psychiatric patients: failure to give attention to the concerns of front-line staff, too much reliance on the epilink, poor communication with front-line staff and poor communication between Public Health and hospitals. The story of these family clusters of illness shows the importance of strong infectious diseases leadership and of proper support and supervision during an outbreak.

But above all, the story of Patient A and his family is a story of family tragedy and loss. Five family members fell ill, and in the end the family lost a husband, father and grandfather.

Patient A Family Cluster

Patient A was admitted to North York General on March 22, 2003, following a fall that resulted in a fractured pelvis and clavicle. He was admitted to 8 West, the ward that later became the SARS unit. Although his admission to hospital predated the formal declaration of SARS and the accompanying requirements for screening of patients, it is known in retrospect that Patient A did not have an epidemiological link to a SARS patient or to a hospital with a SARS outbreak and that he had no history of travel to an area where SARS was endemic.

Although Patient A was on 8 West when Health Care Worker No. 1[726] became ill with SARS, his onset of illness was inconsistent with this potential contact being the source of exposure. The SARS Field Investigation, an investigation into the outbreak at North York General Hospital, concluded:

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[726] The story of Health Care Worker No. 1 is told earlier in this chapter, along with the stories of four other health workers who contracted SARS while working at North York General Hospital during April 2003.

> Incidentally, on March 30, 2003, while patient A was on 8W, a nurse on that ward developed SARS symptoms and later tested PCR positive in stool samples and then seroconverted to SARS-CoV. The nurse's mother was an inpatient at Scarborough Hospital Grace Division (where SARS transmission was occurring) in late March; her serology results were positive for SARS 2 months later but she did not meet the WHO case definition. Evidence of SARS was sought in other patients with whom this nurse had contact on the only known date she was working while symptomatic. Although two additional patients had isolated, unexplained temperature elevations within ten days of this contact, we found no convincing evidence for SARS. She also should have been in full precautions when seeing patients. The 8W nurse had unprotected contact with another nurse on the ward, who subsequently developed SARS 3 days later. She was sero negative. This appears to be the full extent of this transmission chain. Our investigation failed to find evidence for direct contact between the first 8W nurse and patient A or B.[727]

On April 2, 2003, Patient A was transferred from 8 West to 4 West, the orthopedic ward, as 8 West became the hospital's SARS unit. Because surgeries had been cancelled during SARS, 4 West had a number of empty beds and was filled with medical patients in addition to the usual orthopedic patients who were on the unit.

In early April, Patient A was diagnosed with pneumonia. He was treated with antibiotics and his condition appeared to improve. The retrospective review of his case by the SARS Field Investigation Team determined that this pneumonia was unrelated to SARS. As the report found:

> The onset of his [Patient A's] illness was most compatible with the April 19, 2003 date, as his family did not get sick until May 2003.[728]

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[727] SARS Federal Field Investigation, p. 16-17. Patient B was a roommate of Patient A while on 4 West. Post-SARS, it remains unclear whether Patient A gave SARS to Patient B, Patient B gave SARS to Patient A, or they were infected from a common, unknown source.

[728] SARS Field Investigation, p. 16.

On April 19, Patient A developed another pneumonia. Despite treatment, his condition deteriorated, and he died on May 1, 2003. During his stay in hospital, Patient A had no known contact with a SARS case and his medical illness was not inconsistent with his age, health history and presenting medical problems. A diagnosis of SARS was not considered during his stay, and his case was therefore not reported to public health officials. Until his family began to present to the emergency department, there was nothing about his case that caused alarm bells to ring or that led to a query of SARS.

Patient A's Wife

Patient A's wife (referred to as Mrs. A) regularly visited him while he was in hospital. She became ill on May 3, 2003. On May 9, she was taken by ambulance to North York General Hospital, where she was seen in the emergency department.

The emergency room physician who saw Mrs. A had maintained a strong vigilance for SARS, even during what was thought to be the post-SARS period. He diagnosed pneumonia and thought that Mrs. A's symptoms were consistent with SARS. He requested a SARS work-up and admitted Mrs. A to respiratory isolation on full droplet precautions. His astute, cautious actions most certainly prevented further spread of SARS, as staff who worked with Mrs. A were protected and other patients were not exposed to SARS.

Concerned about this case, this physician told the Commission that he contacted Dr. Barbara Mederski, an infectious disease specialist at North York General Hospital, to request admission to the SARS unit. He said that Dr. Mederski did not feel that Mrs. A had SARS and would not admit her to the SARS unit. This physician told the Commission that the absence of an epilink seemed to be the determining factor:

> It was big with her [Dr. Mederski] that we needed an epidemiological link, and if we didn't have an epidemiological link, then it was unlikely to be SARS. And I remember on one occasion I said to her, an epidemiological link is great, but we're dealing with a disease whose symptoms in the beginning are very insidious, how can we track back every person that she may or may not have been in contact with. It wasn't practical, what I was being asked to do. And in the heights of such an outbreak, we have a patient who is coming in with fever, with pneumonia findings, yes, she's elderly but there's no history that she passed out and aspirated, and at that point I was told by one of the nurses that her husband had passed

> away on the orthopedics floor, what was it, two or three weeks prior. And in fact at that time, we didn't know what the man had passed away from. In fact, in my notes I wrote, "she is not known to have any specific known SARS contact, but this obviously, at this point in the SARS outbreak, is of limited value. The patient had her husband in hospital for nearly six weeks and he passed away a few weeks ago. He passed away of complications related to a fracture of the left shoulder," end quote, is what I wrote. That's the best information I had at the time because at that time nobody even knew that this man on the orthopedics floor was going to be a central role in the whole outbreak. But it was very suspicious to me and so I decided to admit this patient and I couldn't convince her [Dr. Mederski], so the patient ended up going, still in isolation, but to the medical ward.

This physician identified what many missed during SARS: that the absence of an epilink did not rule out SARS but might mean not that the epilink didn't exist, but that it just had not been found. This emergency room physician also recognized that the cluster of illness among family members with a link to a hospital that had SARS cases in a city with an infectious disease outbreak was cause for concern.

After Mrs. A was seen in the emergency department on May 9, another physician took over her case. By May 13, Mrs. A's condition has worsened and her physician, concerned about her deteriorating condition, also consulted with Dr. Mederski. Mrs. A's physician recalled that Dr. Mederski did not think that Mrs. A had SARS. Although Mrs. A's physician had concerns about her health, she thought the diagnosis of non-SARS-related pneumonia was also plausible, particularly in light of her having just lost her husband:

> So I spoke to Dr. Barbara Mederski, our head of infectious diseases, and she thought it was probably a non-SARS-related pneumonia. This is an elderly woman who had been at her husband's bedside every day, very tired and emotionally drained, and so the feeling was that this was likely a non-SARS-related pneumonia but, of course, we were concerned since she had visited him while there was quarantine in effect at our hospital. She [Mrs. A] would have had to wear a mask and gown and such in order go in and sit at her husband's bedside.[729]

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[729] Dr. Mederski's response to the recollections of others is noted below.

At that time, there seemed to be a good alternate diagnosis for Mrs. A's illness, and her presentation was not inconsistent with a woman who had lost her husband after a constant vigil at his bedside. Dr. Mederski's consultation notes for May 13 indicate that she did not believe that Mrs. A had SARS. Although she did not think Mrs. A had SARS, Dr. Mederski did order a number of tests for Mrs. A, including a series of SARS tests.[730]

On May 15, the physician who was caring for Mrs. A contacted her daughter (referred to as Mrs. B) to discuss her mother's condition. At that time Mrs. A seemed to be improving, but her doctor was concerned about her well-being given that she had just lost her husband. When Mrs. A's physician spoke to Mrs. A's daughter, Mrs. B, she became concerned when she learned that Mrs. B, her husband (referred to as Mr. B) and their daughter (referred to as Miss B) were also ill. Mrs. A's physician learned that Miss B had been home for her grandfather's funeral and had since returned to school, outside of Toronto. This physician said that she wrote this all down, because the cluster of illness among the family caused bells to go off:

> So I took all this down on a piece of paper. I was sitting there and I must have spent half an hour on the phone and I said, okay, who are your kids, where are they? I'm writing all this because suddenly these little bells are going off. You know, this is not right. So, I wrote it all down and I said, I'm going to speak to Dr. Mederski again.

This physician again spoke to Dr. Mederski, outlined what she had learned and expressed her concern about these cases. She recalled that it was Dr. Mederski's opinion that these cases were not SARS, that they were community acquired pneumonia. Although there was no known connection to a SARS case at that time, this physician continued to be worried and to have concerns about this family cluster of illness. So she took the notes of her conversation with Mrs. B (Mrs. A's daughter) and gave them to the Public Health person who was working in North York General Hospital:

> So I then took all this information on my little sheet of paper and I went to the patient's chart to transcribe it all there, as part of the legal docu-

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730. Although PCR [polymerase chain reaction] and serology testing were available at this time, the tests had to be sent to the National Microbiology Lab in Winnipeg, Manitoba, and were not quickly available. For example, the lab results for Mrs. A were reported July 17, 2003. As noted earlier the only test that could rule out SARS was convalescent serology, a test to determine whether a patient had developed antibodies to the SARS coronavirus. A convalescent serology test could not be considered negative, or used to rule out SARS, until more than 28 days after onset of symptoms. CDC, SARS Lboratory Preparedness.

> ment, and there was a woman there, and I believe she was with the Public Health Department, back at the hospital. I think it's probably the following morning, probably the 16th. So I had my little piece of paper there and the Public Health lady there, I should have gotten her name but I was just so pleased to see someone, she said, I'm from Public Health and I said, oh, thank goodness. I said, I'm really worried about this family. Here's the history, I said, there's a family outbreak, and I said, I'm very, very concerned.

This physician thought that because she had reported her concerns to Public Health, they would now investigate the matter. As will be seen be seen below, Public Health were already aware of this family cluster and were also concerned about their illness.

Mrs. A eventually recovered and was discharged home on May 26, 2003. During her hospitalization at North York General, she was treated on a regular medical floor, albeit in respiratory isolation with precautions, and was not admitted to the SARS unit. Mrs. A was retrospectively classified as probable SARS, on May 25, 2003, after the outbreak on 4 West was identified.

Patient A's Daughter and Son-in-Law

Mrs. A's daughter and son-in-law (Mrs. and Mr. B) had been in contact with Mrs. A when she stayed with them following Patient A's funeral. The family had sat shiva for the week following the funeral. After Mrs. A became ill, Mrs. and Mr. B also became ill and both went to the North York General Hospital emergency department on May 16, 2003. By May 16, Mr. B had already been to see his family physician, where he was diagnosed with pneumonia. He had also previously gone to the emergency department at North York General but was not admitted to hospital at that time.

When Mr. and Mrs. B went to the emergency department on May 16, they were examined by the same emergency room physician who had examined their mother-in-law/mother just a week earlier. Once again, this physician queried a diagnosis of SARS and raised concerns about these cases. He was concerned to now have admitted three family members in one week, all with respiratory symptoms, who had had a relative die while in hospital during the SARS outbreak. As he told the Commission:

> So at that point I'd seen now the mother, the daughter, the husband of the daughter, three members of that same family in the course of seven days. I'm also told that the patriarch died on May the 1st … I have three

people with pneumonia who had visited a father in a time of the SARS outbreak.

The physician ordered SARS work-ups for Mr. and Mrs. B and placed both patients in respiratory isolation on droplet and contact precautions. Again, the cautious diligent actions of front-line staff, maintaining a high vigilance for SARS and ensuring both patients were isolated and handled with precautions, most certainly prevented further spread of SARS.

This emergency room physician told the Commission that he once again contacted Dr. Mederski to consult about the case and to request admission to the SARS unit. He said that Dr. Mederski did not think that it was SARS and once again did not accede to his request to admit these patients to the SARS unit.

Although there was no epilink, there were now three family members, all diagnosed with pneumonia, and a connection to another family member who had died while an inpatient at North York General Hospital, on May 1, during the first SARS outbreak. In his consultation notes for Mrs. B, this emergency room physician wrote that he found it "very suspicious that the patient, her husband and mother had all come down with pneumonia in the last 10 days." He suggested that SARS should be ruled out. This emergency room doctor described to the Commission his concerns about these cases:

> Clearly, all three of them had pneumonia. The pneumonia diagnosis, there's no discussion about that, that is clear. The x-rays showed it, the lab data supported it, okay. The question was what kind of pneumonia? Pneumonia simply means an infection of the lungs. You can have infection from bacteria, from TB, from viruses. Coronavirus is a virus, which causes SARS. You have three members of the same family with pneumonia. My working diagnosis is that this pneumonia, in all three patients is, as far as I'm concerned, SARS. Why? Because three members of the same family, which is highly, highly, highly irregular and unlikely in any of the bacterial or viral infections that you see, and at a time when SARS was ravaging the health care scene, and at that time I didn't know what the elderly man, the patriarch, had died of, but he had died in hospital on May the 1st.

This physician explained how it was difficult to diagnose SARS and, in the absence of a quick, reliable test, front-line physicians like him had to rely on their clinical judgment. In the case of Mr. and Mrs. B, his clinical judgment led him to a working diagnosis of SARS:

> So essentially, in the case of SARS for instance, a patient comes in with certain symptoms and the big symptoms being fever, cough, usually a dry cough, with a chest x-ray that will, in the beginning, show maybe very subtle abnormal findings and later on becomes more obvious. So, you ask yourself, what else can give you those symptoms? There are many other bacteria that can behave the exact same way, okay, microplasmas, strep-pneumonia, and so on, can behave exactly the same way. So it's very hard to distinguish them from the first instance.
>
> So then you start looking for other clues to help you point towards or away from SARS. If a patient comes in and it's a nurse who has worked on the SARS unit the night before or week before then obviously you tend towards SARS. If you had a patient, and these would happen with chronic lung disease, heavy smokers, who come in for their sixth admission in three years with pneumonia, then you take a little bit of a guess that it's most likely the same type of pneumonia and not SARS. You don't report every case that comes in as, they must be SARS because they came in, in May of 2003, no. There is a lot of clinical judgment that goes into this.

This physician recalled that he spoke to Dr. Mederski about the cases and she offered the opinion that they did not have SARS because there was no epidemiological link:

> … when I was asking for a good reason as to why it can't be SARS, tell me why it can't be SARS? And the answer was, very clearly, she said, there's no epidemiological link.

After this emergency room physician saw Mr. and Mrs. B in the emergency department, care for these two family members was turned over to another physician.

Both Mr. and Mrs. B's cases were taken over by an internal medicine specialist. This physician also queried SARS for both patients. He too noted that Mr. B's father-in-law had died while in hospital and that his mother-in-law and wife were also admitted to hospital. This physician told the Commission that when he saw Mr. B and Mrs. B and became aware of the family history, his flag went up:

Question:	When you first saw them, what was your understanding of what was the problem with them, what was their presentation?

Answer: They had a pneumonia-like picture, and the strange thing that occurred to me was why would the husband and wife get sick together, so close in time proximity to the father who was sick and died.

Question: Were you aware at that point in time that the mother was also in hospital?

Answer: They told me that, actually, [Mrs. B] told me that. They were wondering if they had something too.

Question: So what happened to them? With the results of all that information, what did you do?

Answer: Well, first of all a flag goes up. I need to be really well protected against these people. I don't want to get infected by them. So I wore the N95 mask, gown and gloves and used all precautions to prevent infection to myself and I treated them and monitored them. They needed oxygen and I think I gave them treatment. I can't exactly remember if that was antibiotics or what-not. I got an infectious disease consult on those.

This physician also recalled that Mrs. B raised concerns with him as to whether they might have SARS.

The concerns of this physician were reflected in his consultation notes, which provided that "Mr. B should be considered a person under investigation for SARS until other causes of his pneumonia were ruled out." His consultation notes for Mrs. B stated that she should be managed in respiratory isolation due to a "possible epidemiological link to her father who died in the hospital and potentially may have had exposure to SARS."

Mr. and Mrs. B's physician referred their cases to Dr. Mederski. Dr. Mederski saw Mr. B and Mrs. B the next day, May 17, 2003. Mr. and Mrs. B's physician recalled that at that time Dr. Mederski did not think these patients had SARS, primarily because there was no epidemiological link. As he told the Commission:

> My understanding was that there is no epidemiological link. I hope I am not misquoting her [Dr. Mederski]. There is not definite evidence of

SARS, that was the conclusion. Treat it as any ordinary case of pneumonia.

This physician said that although it was his impression that Dr. Mederski did not think these patients had SARS, it was also his understanding that the fact that both Mr. and Mrs. B's conditions improved contributed to Dr. Mederski's belief that these were not SARS cases:

> Question: So you discussed the case with Dr. Merderski, and what was the result? You said that there was an issue about the epilink?
>
> Answer: My understanding is that this is not SARS. Don't worry too much about it and she would follow up as an outpatient. She would see the people in followup.
>
> Question: And did she say to you don't worry too much about it?
>
> Answer: I may be paraphrasing her, meaning that they got better, they are okay and don't worry about it. I am not specifically saying that she is saying "don't worry about it that this is SARS." This is a matter of judgment here and that also happens very often when we ask for consultation. The consultation report of the opinion might not be exactly what you think they are, but they are what the experts say and when the patients get better especially, I don't think there is any suspicion or any reason to think otherwise.

Mr. and Mrs. B's physician said that he did not raise concerns with anyone other than Dr. Mederski. He said that he consulted with Dr. Mederski, whose opinion was that they did not have SARS. The patients got better, and that was where the matter was left:

> Question: At this time then, is it fair to say in your mind it was a suspicion and you raised it and you consulted with the person in charge and that is where it was left basically?
>
> Answer: Yes, that is how consultation works. You ask for an opinion, it is provided, the patient got better.

Both Mr. and Mrs. B were treated in respiratory isolation, with precautions, on a regular medical floor.

Mrs. A's physician, who had by the time of Mr. and Mrs. B's admission expressed concerns about the family cluster to both Dr. Mederski and Public Health, recalled being surprised to later learn that Mrs. A's daughter (Mrs. B) had been admitted to hospital but was not on the SARS unit:

> So that was the Friday, and I thought, it'll be dealt with. I came in the Monday, which would have been the 19th, and you have to realize that Mrs. A was not in a SARS unit. She was in respiratory isolation, but on a regular medical floor, and in the SARS unit you have that extra level of protection. There's all the plastic sheets up, the extra vestibule where everyone changes, but this was a room with a bunch of stuff on a tray outside the door, so you have masks and everything to go in to see her. I go to the floor and then I see Mrs. A and I said, oh, they've moved her room. They hadn't moved her room, it was her daughter who had been admitted and her daughter was not admitted to the SARS unit, and I'm going, okay, a family outbreak with previous contact with this hospital and they're not in the SARS unit. I just said, okay, strange things happen.

As noted above, both Mr. and Mrs. B improved with treatment. Mrs. B was discharged home on May 22. Mr. B was discharged home on May 26, 2003. Both remained on regular medical units during their hospitalization, under respiratory isolation.

Both Mr. and Mrs. B were retrospectively diagnosed with SARS on May 29, after the outbreak at North York General Hospital was identified on May 23.

Patient A's Grandchild

On May 18, 2003, the granddaughter of Patient A (referred to as Miss B) presented at the North York General Hospital emergency department. The same emergency room physician who saw Mrs. A, Mr. B and Mrs. B also saw Miss B. This physician had now seen the matriarch of the family, the daughter, the son-in-law and the granddaughter. He had raised concerns about three family members, had admitted them all into isolation with full precautions, had ordered SARS testing and had requested admission to the SARS unit. But none of the three patients was admitted to the SARS unit and none was identified as SARS.

This physician told the Commission that when he first saw Miss B, he did not know her connection to the previous three A family members. He said that when he learned of her connection, he got goosebumps:

> And then I said to her, do you have anybody who in your family was sick recently? And this girl looked at me and said, what do you mean, you don't know? I said, what? Well, my name is [Miss B] but my parents are [Mr. and Mrs. B] and my grandma is [Mrs. A], in which case, I had goosebumps.

Seeing Miss B reinforced his suspicion that this was a family cluster of SARS. As he told the Commission:

> Well, at that point the clouds parted, the sun came out and lightning struck me and I said, hot damn, we've got one more.

The emergency room physician ensured that Miss B was placed in respiratory isolation and felt that she should be admitted for treatment to the SARS unit. He told the Commission that as he had done for the other three of her family members, he asked for admission to the SARS unit but that, as with her three family members, Dr. Mederski admitted her to a regular medical floor.

The internal medicine specialist who took over care of Miss B recalled that she was aware that the emergency physician had raised the question of SARS. This specialist also cared for Mr. O, another patient with a previous connection to 4 West, who was admitted to hospital on Sunday, May 18, and whose story is told below. Mr. O was also questioned as a possible SARS case. Miss B's physician recalled that precautions were taken when caring for both Miss B and Mr. O and that both were treated as possible SARS cases:

> The question of SARS had been raised, and the way our system works is there's an internist on overnight who gets the referrals from the emergency physician, admits the patient to one of us, we essentially reassess the patient the next morning and make our own determination. So yes, there was, certainly at least a question of SARS for both of these patients [Miss B and Mr. O] and so they were presented to me as possible SARS patients and I treated them as such.

Both Miss B and Mr. O were referred to Dr. Mederski. Dr. Mederski saw Miss B on Monday, May 19. Her consultation notes report that although many of Miss B's immediate family members were now hospitalized for pneumonia, other family members remained well. Dr. Mederski's notes show that her opinion at that time was that this was another case of community acquired pneumonia.

Miss B's condition improved with treatment and she was discharged from hospital on May 23. During her hospitalization she was treated on a regular medical unit, in respiratory isolation, with precautions. Miss B was retrospectively diagnosed with SARS after the outbreak at North York General Hospital was identified on May 23.

Mr. and Mrs. O

Around the same time that Miss B, the granddaughter of Patient A, was admitted to North York General, another patient who had ties to the 4th floor at North York General Hospital was seen in the emergency department, along with his wife.

Mr. O was admitted to North York General Hospital on May 7, 2003. He was an inpatient on 4 West until May 11, when he was discharged home. He came back to North York General Hospital via the emergency department and was readmitted to hospital on Sunday, May 18, for pneumonia. The internal medicine specialist who cared for Mr. O recalled referring his case to Dr. Mederski. It was this specialist's recollection that Dr. Mederski was not convinced that he had SARS. The internal medicine specialist recalled that she wrote a note on the file identifying Mr. O's connection to 4 West, the unit where Miss B's grandfather had died. As noted above, the internal medicine specialist was caring for both Miss B and Mr. O on May 19.

Dr. Mederski recalled being asked to consult on his case and recalled that she saw Mr. O on May 19. She recalled that at that time he was a young man who was very ill:

> I don't know who asked me to see him [Mr. O], but I was asked to see him in consultation, I don't remember when I was asked to see him, but it was around the time of the Victoria Day long weekend,[731] because it was based on his findings that I then spoke with the Public Health people about it Friday, and that is that I saw this man looking extremely sick. What was bizarre, he was a young male who had been in the hospital on 4 West, with an appendectomy, but had gone home and came back with symptoms of pneumonia. I was asked to see him as a routine pneumonia,

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[731] The Victoria Day long weekend was Saturday, May 17 to Monday, May 19.

> not as anything else. At that time he was on the 5th floor when I saw him.

Dr. Mederski said that she contacted his wife and learned that she too was ill:

> And when I interviewed him, I phoned his wife, because I found it to be very strange that a young man would be so sick. And I got very interesting news, that she thought he got sick from her while she was visiting him in the hospital while he was in for his first surgery on 4 West, because she was sick after visiting him on 4 West, while he was there resting from his appendectomy. So she thought that his current pneumonia was acquired from her. She wasn't bad enough to be admitted. She was at home I was phoning her while he was admitted … And then she came back and was admitted too, on the same day.

Dr. Mederski told the Commission that after Miss B was admitted on Sunday, May 18, she (Dr. Mederski) was starting to get a little bit anxious about SARS. She said that seeing Mr. O on Monday, May 19, was a turning point:

> And then by this time [Miss B's admission], I am getting a little bit anxious, but the real turning point came with Mr. O … He came in on the 19th. He had been admitted on the 19th but he came to the emerg on the 18th, but I didn't get to know him until he was actually admitted to the floor on the 19th. It was then that I got worried, but I didn't at the time connect him with the [Patient A family]. Looking at his wife who is very mildly ill, very, very mildly ill and making the decision that even though she is mildly ill, she is going to be admitted, again to the regular floor. So as the days go on, I am starting to get more antsy.

Mrs. O was admitted to North York General Hospital on May 20, 2003.

Both Mr. and Mrs. O were admitted to regular medical units, in respiratory isolation. Both Mr. and Mrs. O were retrospectively classified as SARS on May 29, after the outbreak was discovered on May 23, 2003.

Why Not SARS?

It is clear that more than one front-line physician at North York General raised the question of SARS with respect to these patients. Among the physicians who raised concerns was the emergency room physician who saw four of the five family members and who had strong opinions based on first-hand clinical impressions. Furthermore, this emergency room physician was an infectious disease specialist and a medical microbiologist, although he was not working in that capacity during SARS at North York General Hospital. So why were these patients not identified as SARS?

Part of the problem was the mistaken belief that SARS was over. Victory had been declared. It was time to move on. As one member of the infection control team at North York General said when asked why Patient A's family wasn't considered to have SARS:

> Question: During May, there was a family cluster that came through the emergency department, the [Patient A family]. When did you become aware of them?
>
> Answer: We automatically report anyone that comes through, but when they came in, I never thought they were SARS. They were milder cases, my understanding is that the one family member just had a sore throat and that's it.
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> Question: Were you aware that [Patient A] was in fact an inpatient on 4 West?
>
> Answer: Yes.
>
> Question: And so now his daughter comes in, is admitted. His son-in-law comes in, is admitted. His wife is admitted, and also his granddaughter.
>
> Answer: And I honestly didn't think they were SARS. I mean, the whole message out there was that it was over. I wish I had thought the other way, but I didn't.

The belief that SARS was over was not limited to North York General Hospital. After the travel advisory, the focus was on recovery.

The desire to see the end of SARS was natural. People were tired, it was a frightening experience, and everyone wanted to see the end of the spread of SARS. But at North York General Hospital, notwithstanding the belief of some that SARS was over, nurses and a number of highly skilled physicians who had experience seeing and treating SARS cases did express concerns about the possibility of SARS.

Each patient was referred for a consult with Dr. Mederski. Yet none of them was identified as SARS and none was admitted to the SARS unit. Those involved with these cases wondered what was going on and were disturbed at what was happening with these patients. As one emergency room physician said:

> But I'll tell you, SARS II never existed, SARS I just kept going. And when you see this happening and you turn a blind eye to this, either because you have other motives, you want make the hospital look like it's recovering and let's get back to business and so on, or because your level of suspicion, or what we call your index of suspicion in medicine, is not high enough, then it's very disturbing. It's very disturbing that this kind of thing can happen with so many people around seeing it, people discussing it, raising concerns, and yet the power being given to that one person who can make these decisions.

While all these patients were admitted into respiratory isolation with droplet and contact precautions, they were admitted to regular medical units throughout the hospital instead of being admitted to the SARS unit. One physician noted that he and his colleagues worried that this increased the risk of spread of the disease:

> When we were seeing the patients with suspected SARS in the emergency room and funnelling all these patients through [Dr.] Mederski, even if she was not the most responsible physician,[732] she [Dr. Mederski] was deciding where they were going to be admitted. And we were concerned at that time that we were finding that they weren't being clustered on one floor, such as 8 West, but they were being spread in isolation rooms all around the hospital, thereby augmenting the potential for spread of the disease, because more nurses, more physicians would be coming in contact with them.

Another emergency room physician agreed that it was worrying that these patients were not admitted to the SARS unit, where there was a high degree of caution because the risk to staff was well known:

> The other thing was, when you call a unit "SARS unit," everybody goes

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[732] A medical term to denote the physician primarily responsible for a patient.

> in as if they're walking on some other planet, so the height of their protection is maximized, as is their care taken. So on a regular ward, it was almost like, if the patient is on that ward, then this patient can't have SARS, so the guard would not be the same and that is human nature.

Dr. Mederski told the Commission that she contacted Public Health on Friday, May 16, to inquire whether there was anything happening in the city that she should be aware of. She said that she spoke to Dr. Tamara Wallington[733] but that she did not recall how much she said about the Patient A family at that time:

> [I asked Dr.] Tamara Wallington, in the role that was [Dr.] Bonnie Henry's, if there is anything else going on in the community. We had been told SARS was finishing, is there something that is happening that I need to know about. Is there anything that I should have on my radar? Are there any people that are being sent to emerg that Public Health has put their eyes on? And that is all I can remember at the moment. This was about [Mrs. A]. Yes, I was calling about the [Patient A] family, but I can't be sure how much in the way of the [Patient A] I spoke to her about, because I didn't have anything at the time about how much she [Mrs. A] was in emerg that day.

Dr. Mederski told the Commission that even after the daughter, Mrs. B, was admitted to hospital on Friday, May 16, she (Dr. Mederski) remained unsure whether she had SARS. She said that her instructions at that time were to dismantle the SARS unit, and so she admitted the patients to regular medical floors, ensuring that they remained in isolation and that staff used full precautions:

> In the earlier part of the week when I had first seen [Mrs. A], I was ambivalent about my own instincts. From the time her daughter [Mrs. B], as the third party, presented, I was starting to get enough worried that I ordered the tests and insisted that she come in. So I was fighting with myself, to be honest that is the only way I can put it, I was fighting with myself to say this is interesting, this is very interesting, because it's now a cluster. Now on the other hand, these are very mild illnesses. And the rest of the family aren't sick and from what we know, from the Sunnybrook episode and the other high spreaders in Hong Kong, usually everybody gets sick or it's just a sort of one-on-one transmission pattern.

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[733] The recollections of Toronto Public Health physicians involved with these cases is reported below.

> I was trying to sort of scientifically rationalize. This is me to myself. And that is why, because I had this tremendous difficulty when I was being called by the emerg department, where to put these people, in terms of SARS unit or not.

Dr. Mederski said that unlike earlier cases, such as the psychiatric patients, which she was confident were SARS, with the A family cluster she was uncertain about these cases over the weekend. She said that they were not following the usual path of a SARS illness and that there were no connections to other possible SARS cases:

> Question: Now I just put this as a reaction for your comment. The Barbara Mederski you are describing over the weekend doesn't sound like the same Barbara Mederski a few weeks before, when you were dealing with the psych patients. You seemed more hesitant, maybe a bit tentative, a bit on the one hand, on the other hand, whereas before you seemed very definite in your conclusion, maybe because of different presentation, different symptomology that they had, but is that accurate and were there other factors that played there other than just the symptoms?
>
> Dr. Mederski: Yes, the fact that cases that I thought were definitely SARS, I'm now being told to me and agreed by others that they are not SARS and I have even less to go on that these cases are SARS. I have even fewer connections; I have even fewer progressive symptoms that would suggest these are SARS cases. They are not coming along the trajectory of getting worse, worse, worse quickly. So clinically they are not behaving like the typical SARS. I would later learn that, I later thought we had different presentations of SARS, the range was huge. Now that was the other thing: I had actually been on television to discuss my theory about SARS having a variant of presentations and I was told by others that I was crazy, that others heard me on this television show, it was an interview by [name of interviewer] where I had said that we can't be complacent in thinking that SARS is only this rapidly galloping, quickly progressing respiratory infection. We have to actually think of it perhaps as a larger cloud of subclini-

> cally infected patients, meaning they don't demonstrate symptoms, that these may be the people who transmit and I was summarily taken to task on that.

Dr. Mederski said that because of the way the Patient A family cluster was presenting, she thought she could safely manage them on a regular medical floor:

> So these patients, this cluster, was actually very similar to what I was alluding to. There is no, there's this, you know, you are sitting shiva, there are hundreds of people coming to your home, this is going over 48 hours, people are getting infected very quietly, very subtly, and that was what I was trying to say. And that was all in that mind. I don't think the public needs to be worried, because these people have a good outcome, they are not going to die, they are going to be like any other respiratory illness. And that's why, as well, in my thoughts, I was not as concerned about moving these individuals into the SARS unit and I thought that I could still deal with them appropriately in isolation, protecting them, treating them on the regular floors, because I thought that was what some of SARS was, that it was going to behave like other regular respiratory infections.

Dr. Mederski said that she was not admitting patients to the SARS unit. Although she could not remember specific details of conversations, she did recall that Mr. and Mrs. B's physician asked about admitting them to the SARS unit and she said that it was possible that someone else did as well:

> Question: Now, could it be, you have mentioned [Mr. and Mrs. B's physician], could it have been [emergency room physician who saw all four family members] who spoke to you about Mrs. A, and Mr. B, from emerg?
>
> Dr. Mederski: It could be. I am trying to think of some experience that I had with him saying something like, if it was me I would do such and such, but I don't remember when or where. So if you said that we have evidence that he was there on that weekend and spoke to you, I wouldn't be surprised, that could be. I doubt it was more than [the doctor caring for Mr. and Mrs. B] for sure.
>
> Question: And if he, in speaking to you, wanted them put into the

SARS unit, or recommended that, would that be consistent with your recollection about the SARS unit and why you were not using the SARS unit?

Dr. Mederski: It could have been because [Mr. and Mrs. B's physician] for sure asked me. And it may have been him and it may have been somebody else who asked me to move somebody or just asked me, where are we going to put these patients, SARS unit or not? And if I was going to be consistent, I was going to have to be consistent, and so the conversation would have been something like, oh, I have spoken to the Public Health, they feel that SARS is not an issue, that these are respiratory cases in the community, yes I know, blah-blah-blah, but I don't think we need to, I can't, or actually I've got a mandate to downsize, I don't have the nursing staff, so I'm going to have to put them on the floor. And they may not have been happy with that.

Dr. Mederski said that she felt that because her mandate was to take the SARS unit down, as long as she could isolate the patients in a private room she could watch them and move them if it became necessary. She said that she normally admitted patients directly to the SARS unit and that the fact that she didn't with these cases was reflective of her ambivalence about these cases as the weekend progressed. Dr. Mederski did not recall anyone challenging what she was doing:

Question: They wanted them in the SARS unit?

Dr. Mederski: Well, they didn't say so. Nobody protested when I put them on the floor. Nobody said, oh, they should have been put in the SARS unit.

Question: Not to you?

Dr. Mederski: Not to me, which would have been the case before. In other words, they would make their case very quickly, like, what are you doing, this is insane. Nobody did that. [Mr. and Mrs. B's physician] did ask me if I would put [Mr. B] in the SARS unit and [Mrs. B]. And I said, you know what, I don't think so because I have been given a mandate that I have to try to take the SARS unit down

> and not the other way, and there is no staffing and as long as I get them into a private room and isolate them, I can watch them and if there is a problem then I'll move them.

Dr. Mederski said that her instincts about these cases [the A family] were less intense than they were for other SARS cases, until she saw Mr. O come back to hospital on Sunday, May 18, having been discharged home after being an inpatient at North York General Hospital. She said that after she saw him on Monday, May 19, she contacted Toronto Public Health and asked to speak to the physician on call. She said that Dr. Elizabeth Rea contacted her and they discussed the cluster of respiratory illnesses. Dr. Mederski said that she and Dr. Rea discussed the absence of an epilink and that fact that these patients could have other, non-SARS explanations for their illnesses:

> … [Dr. Rea] listened to what I had to say, and was listening to everything and then she asked me if there was an epilink. And I told her that there wasn't, but that intriguingly there were these two cases that just happened to be in 4 West. So she said, well you know it is community acquired pneumonia season, it could be atypical pneumonia, these were all younger people and they weren't sick particularly, and it could be like a microplasma, much as we had said with [Patient No. 2] and others.

Dr. Mederski told the Commission that she also mentioned Mr. O during this conversation. It was her understanding based on the conversation that because there was no epilink, these cases were not SARS. Dr. Mederski also recalled mentioning that Mr. O and Mrs. A had connections to 4 West, although at the time she was unaware that there were unidentified cases of SARS on 4 West and did not know the significance of their link to 4 West. It is important to note that Toronto Public Health at this time was also unaware that there were unidentified SARS cases on 4 West.

Dr. Mederski's consultation notes for Mrs. B for May 19 report that she spoke to Dr. Rea of Toronto Public Health, that Dr. Rea concurred with Dr. Mederski that Mrs. B did not have SARS and that she told Dr. Mederski there were "numerous such cases here and there in the city." The notes of that conversation, recorded in Mrs. B and Miss B's Public Health charts but dated May 20, outline Mrs. B and Miss B's current clinical status and conclude with the following notation:

Imp: not SARS
Plan: continue to follow while in hospital. Contacts do not need to be hospitalized.

Dr. Mederski said that she again spoke to public health officials on Tuesday, May 20,[734] shortly before her meeting with the emergency room staff. She said that at that time she was trying to find out if they were following the Patient A family. She described her view of that call:

> And then on the final call, which I made, which was on the 20th, which was to [name of Toronto Public Health physician[735]] and [Dr.] Tamara Wallington.[736] It was on a Tuesday, the 20th, where I repeated more about the same cases and the fact that I was having a meeting that evening with the nurses from emerg at their request, with [Dr.] Glen Berall. On that day, on the 20th, when I spoke to Tamara [Dr. Wallington] and to [name of Toronto Public Health physician], I was asking them specifically questions about the Patient A family, as well as the questions that I was going to be speaking to the nurses about from emerg.
>
> However, I was trying to find out during that long weekend if there was a Public Health file on the Patient A family, because the statements made by Mrs. B, daughter of Mrs. A, suggested to me that Public Health might be trailing them in some fashion or had them on their radar. I couldn't find out. She wasn't clear and I wasn't clear and no one else was clear and it was a weekend. The reason I had it is that one of the nurses in emerg thought that she heard from somebody when they came in through emerg saying Public Health had told these people to come in.

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[734] As noted below, Dr. Wallington recalled speaking to Dr. Mederski on one occasion before May 23, and that was May 15 or 16. According to Dr. Wallington this conversation involved her and Dr. Rea. This is also consistent with Dr. Rea's recollection. While there is clearly confusion about the specific dates of the conversations, there is agreement that Dr. Mederski spoke to Public Health doctors on three separate dates in the week leading up to the second outbreak. The recollections of the Public Health physicians in respect of these conversations are reported below.

[735] Although Dr. Mederski recalled speaking to a particular Toronto Public Health physician, the recollection of that physician, as well as her employment records, show that she did not participate in a conversation with Dr. Mederski on May 20. This second physician told the Commission that she did not speak to Dr. Mederski before May 23 about the Patient A case or any other case. As noted below, Dr. Elizabeth Rea recalled speaking to Dr. Mederski on May 18 and May 20.

[736] As noted below, Dr. Wallington's recollection is that she spoke to Dr. Mederski once on or about May 15 or 16 and that she did not speak to her on May 19 or 20.

> Well, we always took that very seriously. If Public Health said you come in, you have to make sure you talk to those people especially carefully. So that was a sort of a rumour behind these people being admitted.

Dr. Mederski said that she also called Public Health on May 20, to ensure she was going to give the right information to emergency room staff, with whom she was meeting later that day. She said:

> Question: And then on the 20, when you talked to [Dr.] Tamara Wallington and [name of TPH physician], what was the added feature that caused you to call on the 20th?
>
> Dr. Mederski: I called for two reasons, one is I was still seeking a more comfort zone in that, given that I am now watching these patients for 72 hours, I wanted to verify with somebody whether indeed any of them had been on the radar screen with Public Health and told to come in. I am talking about Mrs. B, I was still trying to get to the bottom of that because I kept hearing this rumour that she had been actually sent in by Public Health. And she herself was vague about it, the patient. And I was trying to understand who knew and it turned out [name of Toronto Public Health physician] knew something. But I still never understood what it was [name of Toronto Public Health physician] knew, whether she had just heard or she was part of that file of the patients that they get every day by fax. So they both reassured me that SARS was over.
>
> The other reason for my calling was to find out to what level we could downgrade with our PPE, with our protective equipment, because other hospitals that I had phoned by the way over the weekend, the week before and that day, I was calling Sunnybrook, I was calling Toronto General, I was calling Mount Sinai, I was speaking to different people, what are you doing, what are you doing, what are you doing, despite the directive coming down from the Ministry, what are you actually doing in terms of who was not wearing PPE, what are you doing in emerg, what are you doing on the floors?

> And I was told that everybody was downgrading. The only hospital that wasn't was Scarborough Centenary with [Dr.] Ian Kitai, who said, we're not so quick.
>
> And so I was doing this because I was preparing for this meeting with the nurses, but I was also asking about these cases that came in and I was basically told, I said, am I being hysterical that I am so worried? And there's a silence that I interpreted as, yes, I guess I am. I am meeting with these nurses, I want to hear from you, what do I say, what do I say. They are worried, and what do I say. I know what is written out there but what do I really say. And they both reassured me that SARS was over, that the directives were there, and that basically there was no need to be concerned and that was it for me.

When asked if she expressed an opinion to either Dr. Rea or Dr. Wallington, on either the 19th or 20th, that these patients might be SARS, Dr. Mederski said:

Question: Did you express any opinion to them on the 20th or when you spoke to Dr. Rea on the 19th, did you express any opinion to them about your own feelings, your own thinking about what these cases were?

Dr. Mederski: Well, I was concerned enough to personally call them and nobody had asked me, the hospital administration had not asked me, nobody else had asked me. My concern was manifested by definition in the fact that I phoned these two individuals to ask about, an open-ended question effectively to say I have these cases, should I be concerned? The staff are concerned, these are mild cases, except for [Mr. O], they look like some of the SARS cases we've had. But I didn't say, oh, I have five SARS cases. I was more, it was a rhetorical type of open-ended mulling about, and the fact that I was uneasy about it because I was reflecting the uneasiness of the staff. I did say that I had actually not admitted them to the SARS unit, because there had been no ability to get the staff in for these patients, because we were trying to close.

And that was one of the other things that I asked, should I be admitting these patients to the SARS unit or can I actually keep them out in isolation and I was given the nod for that. So that was more or less the discussion that we had overall. With [Dr.] Elizabeth Rea, I was more concerned about it being SARS just in the sense that I was worried that these cases were clustering, but she basically had felt that there wasn't an epilink and there wasn't to be much concern.

I have to just say that, of the different people I spoke to, [Dr.] Elizabeth Rea held, with me, the highest credibility of the lot. Prior to that Bonnie [Dr. Henry] knew who I was, I knew her, I knew her thinking. When Tamara [Dr. Wallington] was introduced to me on Friday, I understood her background to be fairly junior, so I didn't really think that she had as much ability to make an opinion. Elizabeth [Dr. Rea], on the other hand, was a seemingly a scientist, had researched this, was on the continuous teleconferencing with us, and heard my opinions. I felt that I could run things by her with a greater depth and that she would be a better person to really get some input from when she was actually there on the phone. With her, I voiced more concerns.

This was on the 19th, with [Dr.] Elizabeth Rea I actually specifically alluded to these clusters and I specifically alluded to the fact that we had concerns because we had a similar story with the psych patients that I had been told these weren't SARS cases but I still think they are SARS cases, and you remember me, I said to her, saying this to her on the phone, and she said, yes, I remember you saying that. So, with her I was more pointed about that.

With these other two [Dr. Wallington and another TPH physician] it was more, I am now going to be facing the staff, I am nervous about doing that, what do you think? I have already phoned my colleague equivalent for nursing staff at other hospitals, to see what they are doing and to try to have my preparation for this meeting, but what else

> should I do to be comfortable about what I am saying?

Dr. Mederski said that the discussion with Toronto Public Health focused primarily on relaxation of precautions and that she didn't discuss the cases in detail. She said that she could not find out whether Public Health viewed these patients as "something special":

> When I spoke on the 20th, it was more like, okay, this is my third phone call now, I know I am being apologetic before I even open my mouth, but I have to ask you again, do we or do we not have a reason to be concerned? The vibes I am getting from everywhere from the City are, we don't. The staff are worried in this hospital. I didn't go back and discuss these cases in the detail that I had with Dr. Elizabeth Rea. It was more in line of what are they supposed to do in the way of downgrading the equipment, how far should they go? Is it reasonable for us to do what they are doing at the other hospitals, because we are doing it slower? And I had this whole discussion with [a Toronto Public Health physician] about [Mrs. B], was there something special about the [Patient A family] because I am getting the feeling that there is something special about the [Patient A family], both in terms of how they are now presenting and also because I am getting these messages that they had been picked up by Public Health for review, but I didn't get any corroboration from Public Health.

Dr. Mederski said that the main point of the conversation was to ensure that the staff were safe and that they were safe in downgrading as they had. Dr. Mederski said that when she went to the meeting, despite her personal beliefs, she understood that Public Health was not concerned that these patients were SARS, that SARS was over, and that the staff were safe. This was a message she repeated to the front-line staff, at a meeting held with the emergency department. Dr. Mederski said:

Question:	Did you report back, I don't mean in a formal sense, but did you tell people, okay, I have spoken to Public Health and they are not concerned, they really think SARS is over, we manage them in this way, but it's not SARS? And who would you have told that to?
Dr. Mederski:	Well that weekend I spent a lot of time in emerg, the Saturday and Sunday in particular, and up to Monday. And I remember [physician treating Mrs. B] that I said he was concerned, and I said to him, I have actually

spoken to Public Health about [Mrs. B] and they are not worried. This was from the discussions that I had had with [Dr.] Tamara Wallington on the Friday, the 16th.

Question: Of course the [Patient A family] were not all in [name of hospital] by then.

Dr. Mederski: No, they weren't all in but I was already aware of [Mrs. B] because her mother had said to me that, my daughter is coming down with an illness, so it was just mentioned, that was it. I didn't think it was anything at the time, but I had just been speaking to Tamara [Dr. Wallington] and I had mentioned [Mrs. A] because [her treating physician] had been concerned. I guess the thing is that if people were very strongly opinionated and had a concern, I would share that with Public Health. Whether I felt equally concerned was another story. But if I could, if I had opportunity to speak to these people, I would.

So, at this stage now, I am more voicing other people's concerns rather than my own, in the first part of that weekend. And when they were phoning me over that weekend, the nurses from emerg, and [Mr. and Mrs. B's doctor] I said, you know, I have spoken to Public Health and we have discussed this during our SARS Task Force and we have the directions from the POC [the Provincial Operations Centre], that SARS is over, that for sure it is over, even [Dr.] Bonnie Henry has gone off to the Orient to teach and so on, to get experience.

Question: And [Dr.] Jim [James] Young?

Dr. Mederski: And [Dr.] Jim Young, and they feel strongly that they don't even have to worry about this anymore and we are supposed to be downgrading our hospitals and that we are one of the last holdovers. That was my message to the staff.

More will be said below about the May 20 meeting with emergency department staff and with communication with front-line staff.

Dr. Mederski said that by this point, May 20, although she continued to consult with Toronto Public Health, she had her own opinion about these patients:

> Question: But as the clinician responsible, were you looking for their input as just a piece of further information to help you in coming to a diagnosis, or in deciding what course of treatment?
>
> Dr. Mederski: No. My opinion, clinically, no, definitely not. I already had my opinion by then. If anybody, I would have looked to [Dr.] Elizabeth Rea. By then I had already realized that I wasn't going to get any, so I made my own mind up and proceeded to do what I did with these patients.
>
> Question: Did you make your mind up that these were probably SARS patients?
>
> Dr. Mederski: I think by then I was.
>
> Question: You said, by?
>
> Dr. Mederski: By the Monday [the 19th]. By the Tuesday [the 20th]. By the Tuesday, by the Monday night.
>
> Question: At the meeting or after the meeting?
>
> Dr. Mederski: No, before the meeting …

Whatever Dr. Mederski's level of suspicion or her belief about the status of these patients as of May 20, she did not express concerns to front-line staff at the May 20 meeting:

> But then I couldn't backpedal. And I couldn't move them to the SARS unit if they weren't there, because then I would be looking as talking from two sides of my mouth. I had just finished telling [Mr. and Mrs. B's doctor] and the staff in emerg that I am not sure these are SARS, I don't

> think so, I have every reason to believe they are not, based on the criteria we have, and suddenly turn around days later and move them out. That was the way I felt about myself.

Dr. Mederski said that in the absence of an epilink she understood that these patients could not have SARS. She said that once again she felt that she had to maintain what she perceived was the position of Public Health. She said that she was not trying to hide anything and that she did not feel she could voice her own opinion, in the face of what she believed was a consensus among outside experts and in the face of what she perceived as previous rebukes for attempting to clinically diagnose SARS without an epilink.

As noted below, Public Health officials say that they did not rule out SARS for the Patient A family and that the family was a source of great concern that they were investigating. The Public Health physicians did not recall Dr. Mederski reporting to them that it was her clinical opinion that these patients had SARS, and there is nothing in the Public Health charts of any of the family members to suggest that she did provide this opinion.

The Role of Toronto Public Health

Prior to May 12, 2003, Toronto Public Health had never heard of the A family and had no knowledge of Patient A and his death while in hospital or of his wife's illness and admission to hospital. Toronto Public Health learned of the Patient A family cluster on May 12, 2003, when Mrs. B (the daughter of Patient A) phoned Toronto Public Health looking for guidance with respect to entering another health care facility.

When Mrs. B spoke to the Toronto Public Health investigator, she reported that she had a fever and a cough but that a chest x-ray had been normal and that as of that day, May 12, she was starting to feel better. During her call she also mentioned that her mother was ill and had been admitted to North York General, that her father had died while an inpatient in North York General Hospital and that her husband (Mr. B) was also unwell and had also been to see a doctor. Mrs. B told the public health investigator that her mother (Mrs. A) had regularly visited her father while he was hospitalized at North York General but that she always wore a mask. Mrs. B said that she and her husband (Mr. B) had not visited her father while in hospital at North York General.

Dr. Wallington, a Toronto Public Health physician, said that although they worked hard to follow up and obtain information about the family, the description by Mrs. B of symptoms and of her husband's condition did not immediately raise the SARS alarm:

> I think the reason that this came to our attention initially was because [Mrs. B] was looking for some direction around should she go to [another hospital] or not. Because otherwise, [Mrs. B] had been diagnosed with strep throat. She had a fever and a sore throat and her husband [Mr. B] had a fever and some back pain, and his sugar was out of control. So, although we say that the way in which SARS presented was very vague and mimicked other diseases, the symptoms that [Mr. and Mrs. B] complained of didn't even mimic the vague symptoms of SARS. A fever and a sore throat was generally not how SARS presented. And [Mrs. B] had been treated with antibiotics for strep throat and was feeling better. So I don't believe that the investigator was alarmed about [Mrs. B's] clinical complaint, it was more, I'd better take this to a physician and make sure we give her the right information on whether or not she could go [to another hospital].

Dr. Wallington explained that because of the information provided by Mrs. B and the uniqueness of the scenario, the information was discussed among the physician group at Toronto Public Health, where it was decided that the case needed to be further investigated, in particular to try to understand what was happening with Mrs. A and Mr. B.

On May 13, Dr. Lisa Berger, a Toronto Public Health physician, phoned Mr. B's family physician to try to determine what was happening. She explained that at this time, Public Health was still investigating anything that came to their attention:

> At this point we are still working full out and investigating everything that comes to our attention. If our investigator gets a call from the hotline or a report in any fashion, we are still investigating, the same way we investigated right from the beginning. So, typically, if I don't have enough information, if the information was through a spouse and it was unclear what was going on, if I needed to make a determination as to what is going on, I would go to whatever source of information I needed. Sometimes that involved calling physicians, sometimes that involved calling the coroner, it would depend. So this was a story about someone from a spouse, I decided I would call the physician and understand what

> was going on and really what the husband had. So I called the family physician the next day, to speak to him as to why he had seen the husband and what he had found.

Dr. Berger said that the family physician described Mr. B's symptoms, including a previous fever, chills and muscle pain. He told Public Health that the chest x-ray did show pneumonia and so he was prescribed antibiotics. Toronto Public Health followed up with Mr. B the following day, at which time Mr. B reported that he had no shortness of breath and that he was feeling better.

On May 15, Mrs. B contacted Public Health to report that her husband was unwell. Toronto Public Health suggested to Mr. B that he return to his family doctor or visit an emergency department. Although he went to the emergency department, he was not admitted to hospital on that date. Dr. Wallington told the Commission that Toronto Public Health continued to be concerned about this family but that at that time the clinical picture still wasn't looking like SARS:

> Because this was a family cluster, we made a decision to keep following. Again, this wasn't really a picture that even vaguely looked like SARS. And in fact, [Mr. and Mrs. B] had not even been to North York [General Hospital].

Also at this time, Dr. Wallington contacted the physician of Mrs. B's mother (Mrs. A) to try to determine what was happening with Mrs. A's illness. Dr. Wallington told the Commission that on or about May 15, she spoke to the physician who was caring for Mrs. A and that after speaking to the physician, she was reassured that Mrs. A's case was being managed with precautions:

> We talked. SARS came up, in terms of, are you worried about this pneumonia, do you think it could be anything other than just a community acquired pneumonia or an atypical pneumonia? And again, the answer was, no, there are a lot of good reasons for her to have this pneumonia. She is frail, she is sick, she has suffered a major loss. But she is nonetheless being treated in precautions. So she was being treated appropriately. The other thing that I did verify with [the physician] was whether or not it was her understanding that [Mrs. A] wore a mask, an N95, every day that she walked into the hospital. And [the physician] said she did ask that of [Mrs. A] and [Mrs. A] did verify that yes, she wore a mask every day. So again, this was a family and a case that was on our radar, but there was a lot of reassurance that she was being treated appropriately, she had

> a good reason for having this pneumonia, she had no epilink, and on top of that, she was very reassuring about the fact that she had worn this N95 every day she went into the hospital.

As noted above, although Mrs. A's physician did not initially worry that it was SARS, shortly after this conversation she became concerned to hear that other family members were ill, which caused her to be concerned about the possibility of SARS. She reported that information to a Toronto Public Health nurse who was on site in North York General Hospital, providing detailed notes of the information she was able to obtain about the family cluster.

Although Public Health officials were monitoring these cases, they still did not initially think they were SARS. For example, despite Mr. B's illness, Public Health determined that it was unnecessary to place him under quarantine prior to his admission to hospital. This meant that even though Mr. B was ill, he was not required to remain in his home. This fact alone suggests that Public Health officials did not consider these cases to be SARS at this stage.

It is important to recall that Public Health officials were unaware of the cluster of respiratory illness on 4 West or of illness among staff on 4 West. They had no idea that there were unidentified cases of SARS in North York General Hospital. To their knowledge there was no link between any of the Patient A family members and other SARS cases or contacts.

But Mr. and Mrs. B continued to be ill, and both returned to the North York General emergency department. Mr. B was admitted on Friday, May 16, 2003, while Mrs. B was admitted in the early morning hours of Saturday, May 17, 2003.

On or about May 16th, Dr. Mederski phoned Toronto Public Health and spoke with Dr. Wallington and Dr. Rea. Dr. Wallington told the Commission that she did not recall Dr. Mederski asking if there were new cases of SARS in Toronto and she did not recall speaking about the Patient A family cluster during that telephone call. Dr. Wallington described her recollection of the conversation:

> I recall having a phone conversation with Dr. Mederski around mid May, so around May 15th, 16th, and I recall that Dr. Elizabeth Rea was on that phone conversation with me and my recollection of the sequence of events is that Dr. Mederski contacted us before going into a meeting, that she was going to have with North York General Hospital staff. So she was in her car, on her way to the hospital, to attend this meeting, she

> called us from her cellphone, and again I recall that Dr. Elizabeth Rea was on that call with me, we had Dr. Mederski on speaker phone, and there were a couple of issues that she wanted to discuss with us. The reason that I ended up speaking with Dr. Mederski, is primarily I believe because Dr. Bonnie Henry was away, at that point, she was in China, and up until that time Dr. Henry had been the main contact for Dr. Mederski, primarily because of her involvement with the 7 West cluster. So Dr. Mederski called us to talk about this meeting that she was going to be attending, it was going to be, from what I recall, a meeting that she would have with the staff and other senior administrators would be there to talk about the new normal directives that had been released by the province on May 13th, and that were going to take effect on May 16th. So there were apparently some questions that staff were going to have around those directives, and I was left with the impression that staff may have had some concerns with the new directives and would have questions around what it would mean for their practice, and some of the other questions and concerns that Dr. Mederski felt might come up would be around the 7 West cluster.
>
> So the main subject of that particular conversation was primarily about the 7 West cluster. And what I had said to Dr. Mederski in the context of that conversation was pretty much a reiteration of what already happened in the adjudication process. And Dr. Henry had given me an update before she left for China on this cluster, because it was a complicated cluster and Public Health had been following it very closely. And my impression was, Dr. Henry felt that there would likely be followup phone calls because of the complexity of the cluster, my impression was this was one of the followup phone calls that we were expecting and I reiterated what had been discussed with respect to the adjudication process and this cluster. It was determined by the adjudication team that this could not be labeled as SARS, but this cluster would be treated as SARS. It would be treated in full precautions, the contacts would be quarantined and followed. So it was pretty much a reiteration of the decisions of the adjudication team.

Dr. Wallington said that she did not recall reassuring Dr. Mederski that there were no new cases of SARS in Toronto or that SARS was over and that she would not have said or insinuated that there were not people being followed or under investigation for possible SARS:

> A reasonable comment to make would have been that we were investigating many individuals, that there were many persons under investigation in the city at that time. That there were individuals who we were concerned about and who we were following closely, but at that time there were no individuals that meet the case definition for a suspect or a probable case of SARS. I certainly wouldn't have insinuated that we weren't worried about people or that people were not being followed. There were in fact many persons under investigation.

Dr. Wallington did not recall Dr. Mederski expressing any concerns about the Patient A family and said that such a statement would have been important to Public Health at that time, as they were closely following the Patient A family. As noted above, she did not recall the Patient A family cluster being discussed at all during that telephone call. Dr. Wallington also told the Commission that at no time during this conversation did Dr. Mederski raise concerns with Public Health about unidentified cases of SARS in hospital.

On March 17, Toronto Public Health learned of Mr. and Mrs. B's admissions to hospital when the Public Health investigator had tried to reach them at home on May 17, and, upon being unable to do so, tried calling the emergency department at North York General Hospital to see if they were there or if they had been admitted to hospital.

After learning that Mr. and Mrs. B had been admitted to hospital, Dr. Berger spoke to the internal medicine specialist who was caring for both Mr. and Mrs. B, on May 17, 2003. She told the Commission that the physician told her that Dr. Mederski was aware of these cases and that Dr. Mederski had seen Mr. B's wife, Mrs. B, and would be seeing Mr. B. He also told Dr. Berger that Mrs. B had been diagnosed with atypical pneumonia. Toronto Public Health officials were again assured that both patients were in respiratory isolation and were being managed with precautions, and no one raised concerns at that time to Toronto Public Health that these patients were SARS.

Dr. Rea recalled being contacted by Dr. Mederski on Sunday, May 18, about the Patient A family cluster. Dr. Rea told the Commission that on that date Dr. Mederski conveyed the opinion that she did not think the A family had SARS. As she told the Commission:

> I spoke with her on Sunday, so that would be May 18th, she'd actually called about another issue, about them decommissioning the SARS unit at North York General and we had a side-conversation about the [Patient

> A] family cluster, at that point. You'll remember there were conversations back and forth about that cluster, the family cluster from the 12th, earlier that day, the 18th, [Dr.] Lisa Berger had spoken with [Mr. and Mrs. B's doctor] at North York General and they'd had a conversation about it again and raising the issues around SARS. So what Dr. Mederski was saying at this point on the 18th was, despite that conversation and what [Mr. and Mrs. B's doctor] had talked about with [Dr.] Lisa Berger, that she felt pretty strongly it was not SARS, that the mother, so that would be [Mrs. A], was already getting better, that none of them were that sick even though the son-in-law, which is [Mr. B], was diabetic, because at that point we already knew that diabetes was a risk factor for SARS, that the so-called source which came with [Mrs. A] who had been visiting her husband in precautions, that he [Patient A] had an explainable course of illness, a fall with fracture and pneumonia is a complication which is a very, very well characterized scenario. So that from her end, it was not hanging together as looking like the clinical picture of SARS that we had sort of accumulated or got to know to that point in the outbreak. So that was the Sunday [May 18].

Dr. Rea told the Commission that at that time the family was classified as persons under investigation and that her view of the telephone call was that Dr. Mederski wanted to be clear about her opinion on these patients, which was that they did not have SARS:

> Basically the way I remember it, because we kept from our end handling that cluster as SARS, and following up on them and conversations and other clinicians at the North York end quite, quite appropriately. People coming in with fever and maybe respiratory symptoms, raising a concern about SARS, keeping it on a differential. So I think she wanted to be clear what her take on it was.

On May 20th Dr. Elizabeth Rea again spoke to Dr. Mederski about Mr. and Mrs. B.[737] At that time she learned that the granddaughter (Miss B) had also been admitted to hospital, into isolation, and was being managed with precautions. Dr. Rea's notes report that based on this discussion with Dr. Mederski, that the impression was "not SARS."

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[737] Dr. Rea advised the Commission that although she had no specific recollection of how the contact was initiated, she had no reason to dispute Dr. Mederski's recollection that she contacted Toronto Public Health on Monday, May 19, and asked to speak to the physician on call and that Dr. Rea telephoned her, in response to that request.

Dr. Rea described her recollection of that call, supported by notes she made at the time of the call:

> The first part of it was Dr. Mederski saying that [the onsite Public Health nurse] was at North York General telling the [Patient A] family contacts to be in quarantine, now what on earth was she doing, because again Dr. Mederski's consistent impression was that this cluster was not SARS, so what was [the onsite Public Health nurse] doing going around telling people that they needed to be in quarantine? From our end, she wasn't actually telling them to be in quarantine, what she was doing was completing the standard 10-day history and contact lists, we weren't pursuing quarantine for contacts but we were going right up to that point so finding out who all the contacts were and the risk areas if they should turn out to be SARS, and that's what [the onsite Public Health nurse] was actually doing …
>
> My interpretation on that and consistent with what we've been over, the charts to back it up, is that she [the onsite Public Health nurse] wasn't telling people they had to be in quarantine, she was completing the standard documentation for PUIs, including getting the contact information. So then following that, there was another sort of update on the status of the group, the family members. And the notes that I have from that conversation, my own notebook are a first mention of [Miss B], that she and [Mrs. B] both have sore throats, that Dr. Mederski's, again, take on it was that three of the four in that cluster would never have been in hospital prior to SARS, that they just weren't ill enough to need hospital-level care. That [Mrs. B] had been at that point afebrile for 48 hours and became afebrile after only 24 hours in hospital. That the granddaughter [Miss B] had a sore throat, was on penicillin, that tests were pending for influenza RT adenovirus that would be part of the standard work-up. And corresponding with that are the part from my notebook which would have been my notes during the conversation, so following that, I would have gone to the chart and written up this note. So there's a bit more explanation there about [Miss B] had a sore throat, she was first seen at [local clinic where she lived], put on Biaxin, came back to Toronto and was admitted at North York General, so at that point Dr. Mederski hadn't seen [Miss B] herself but had heard about her chest x-ray and gotten this much of the history and then, the update on [Mrs. B] and [Mr. B]. So again, her

> impression was not looking like SARS, not looking like the pattern that we had been building up of what SARS clinically looked like. And the update on the testing, that the samples had been done but all the tests are still pending at that point.

Dr. Rea said she did not recall specifically being asked her opinion about these cases and the notation "imp Not SARS" represented her net impression of the case at that point in time:

Question:	Okay, so when this note is written on the chart, "imp: Not SARS," whose impression is that?
Dr. Rea:	That's my net impression of where we are at this point in time. So it's not a diagnosis. It's kind of a what's currently at the top of the differential, if you like. So that's from my end, that's taking into account what information is available about the clinical picture about laboratory stuff to back it up, so serology, stuff about RSC influenza, chest x-rays that support one way or the other what information is there about epidemiology, about establishing an epidemiological link to a known case of SARS. So at that point where we were with that family cluster, the working impression at that time was not SARS. But, of course, we are still following them as persons under investigation. So, there are precautions, we are still pursuing the diagnosis, we are still making sure that [the onsite Public Health nurse] has got all of the contact stuff, and the 10-day history and everything is ready to go, if that impression clicks.

Dr. Rea said that in all these convrsations, Dr. Mederski was consistent in her opinion that these patients did not have SARS. Dr. Rea told the Commission that it was not clear that these patients had SARS because they did not fit the clinical picture of SARS as it was known at that time because they were minimally ill compared to other SARS patients and they had no epilink. But Dr. Rea said that at no time did she ever say to Dr. Mederski these patients were definitely not SARS or that SARS was ruled out.

Toronto Public Health officials told the Commission that they were calling to get information on these patients. They said that it was not that they were being contacted to provide their opinion about these patients, but rather that they were having to follow up regularly to try to obtain as much information as they could about these cases.

Toronto Public Health officials said that they were concerned about this family. Although they were reassured by the fact that all of the hospitalized family members were in isolation and being managed with precautions, their illness was a source of "great angst." As Dr. Wallington said:

> This was a family that was on our radar, so the one thing that was very reassuring and that we did verify again and again was that they were being treated in precautions. So that they were being treated appropriately, from an infection control point of view. They were being treated in isolation. But again, the cluster itself, it caused us great angst as we were trying to work through what was going on. And it wasn't always easy to get the clinical information we needed to think through this cluster and what was happening. It was sometimes very difficult to get that clinical information.

Toronto Public Health said that there was enough back and forth between them and the hospital and enough efforts on their part to follow these cases, including speaking to physicians involved in their care, that it should have been clear that the members of this family cluster were of concern.

All three of the Toronto Public Health physicians involved in the Patient A family cluster told the Commission that Dr. Mederski did not report to them that she felt these patients had SARS. Based on their discussions with Dr. Mederski, they understood that it was Dr. Mederski's clinical opinion that these patients did not have SARS. The Public Health physicians who were following the Patient A family told the Commission that they did not overrule or dismiss any concerns about these patients and that they were concerned about this family and that at no time did they suggest otherwise. It was their understanding that Dr. Mederski's clinical opinion was, and remained until the full extent of the outbreak was identified on May 23, that these patients did not have SARS.

Communication Breakdown

Retrospective accounts of the contact and communication between Toronto Public Health and Dr. Mederski with respect to the sequence of events and opinions held and shared about the Patient A family cluster differ. In fairness, both parties were asked to reconstruct the events long after the outbreak was finished. The Commission does not doubt that both sides were truthful when they spoke to the Commission and that both recounted the events to the best of their abilities.

But the different perspectives of each of the respective parties underscores the importance of clarity in communication and of ensuring there are strong support systems in place to ensure effective communication.

Although Toronto Public Health told the Commission that they were constantly having to seek out information about this family, there is evidence that those within the hospital did try to make their concerns known to Public Health officials. For example, the notes prepared by the physician caring for Mrs. A, which the physician said she provided to a Public Health nurse on May 16, were in the Toronto Public Health patient files, obtained by the Commission.[738] This document included detailed information about each family member's illness, including Miss B, the granddaughter of Mr. and Mrs. A.

The consultation notes for Mrs. B reflect that Dr. Mederski did speak to Public Health officials about her case. And notes in the Public Health charts report that Dr. Mederski did communicate to Public Health officials concerns of front-line staff about relaxing precautions and that there were concerns among front-line staff about the opinions she was giving. Notes taken by Dr. Barbara Yaffe, Director of Communicable Disease Control and Associate Medical Officer of Health, Toronto Public Health, discussing the North York General situation some time before May 22, included an update of the status of Patient A family members, as well as the following notation:

> ER nervous re POC directives – not our bus. We'll – keep PHN in hosp.
>
> …
>
> Ask Bonnie to call Barb Mederski next week

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[738] All Toronto Public Health records and files were obtained under the power of summons, issued under the *Public Inquiries Act*.

> …
>
> issue – even when Mederski says it is not SARS, rest of hosp. still think it's SARS.

Dr. Yaffe was asked to explain what these notes meant:

Question:	In the notes, it appears that on that day, in addition to everything else that was going on, there was a discussion again about the [Patient A family] and case updates.
Dr. Yaffe:	Yes.
Question:	Was that part of what was happening in connection with St. John's or was this sort of a separate case update?
Dr. Yaffe:	A separate case update.
Question:	Okay, and now by the 22nd, in the case update notes, we have gone through some of it, but halfway down the page "ER nervous re: POC directives not our business we'll keep" …
Dr. Yaffe:	PHN in hospital …
Question:	So "ER nervous re: POC directives" – do you remember what the discussion about that was?
Dr. Yaffe:	No.
Question:	Presumably they are talking about the emergency room at North York.
Dr. Yaffe:	Yes. They must have been nervous about something going on with directives and we were saying that, I was saying that they need to talk to the Province, we are not in charge of the directives.
Question:	Will keep PH … ?

Dr. Yaffe: Oh, will keep Public Health nurse in hospital.

Question: In hospital, okay.

Dr. Yaffe: Yes, we had nurses in each hospital .

Question: Okay and then down near the bottom of the page, "ask Bonnie to call Barb Mederski next week: issue even when Mederski says it is not SARS rest of hospital still thinks it is SARS." Do you recall where that information was coming from?

Dr. Yaffe: I really don't. One of the physicians must have been saying that to me, obviously.

But whatever the contact and whoever the initiator, as noted above, there is nothing in the Public Health records to suggest that Dr. Mederski clearly conveyed concerns of front-line physicians or her own opinions, at whatever point she began to think SARS. On the contrary, as noted above, the Toronto Public Health records have repeated references to the clinical opinion of Dr. Mederski that these patients did not have SARS. This is consistent with the message she gave to front-line staff and other physicians at North York General and with her consultation notes with respect to these patients. Whatever Dr. Mederski's private beliefs about these patients, she did not share them with colleagues at North York General Hospital or with front-line staff. Moreover, given her own accounts of conversations with Toronto Public Health, it is unclear in what way and how strongly she expressed her views. More will be said about the communication between Toronto Public Health physicians and Dr. Mederski below.

There were also problems with reporting the A family cluster. Although the matriarch of the family, Mrs. A, was admitted May 9, she was not reported to Toronto Public Health officials. As subsequent family members came to hospital, Public Health officials report that they were constantly having to seek out information about the family.

As noted above, Toronto Public Health said that they were constantly having to seek out information about these patients and that their admission to hospital was not always reported in a timely manner. It was through their own investigation and on-site person they were aware of each of these patients and that they were able to monitor them from the time of admission. Each member of the Patient A family became a person under investigation for SARS from the date of his or her admission until classification as a SARS patient after May 23, when an epilink was identified:

Mrs. A:	May 12 to May 25 PUI May 25 classified as probable
Mr. B:	May 18 to May 25 PUI May 25 classified as suspect May 29 classified as probable
Mrs. B:	May 18 to May 25 PUI May 25 classified as suspect May 29 classified as probable
Miss B:	May 21 to May 25 PUI May 25 classified as suspect May 29 classified as probable

Public Health officials report that based on their followup with respect to these cases it would have been clear these patients were of concern and were being followed. In addition, infection control practitioners completed SARS Report Forms for Mr. and Mrs. B and Miss B, all of which were dated May 20th.

But the fact that these patients were under investigation for SARS and that they were being monitored daily by Toronto Public Health does not appear to have been clear to North York General Hospital senior officials. As noted above, Dr. Mederski told the Commission that the status of these patients and of Public Health's involvement with these patients was unclear to her.

Based on the earlier actions of the hospital, the Commission does not doubt that had senior hospital officials and those in charge of the SARS response known that these patients were classified as persons under investigation for SARS, hospital officials would have communicated that fact to staff, via staff updates. As noted earlier, although the communication with staff was not always effective, the hospital clearly made an effort to report to staff whenever a case became a concern for public health officials. And there is no mention of these patients being under investigation for SARS in the SARS Task Force minutes, a place where their status with Public Health would have most certainly been discussed.

But the story of North York General Hospital underscores the importance of communication. Time and again throughout SARS, the importance of having an on-site public health presence in hospitals, particularly during times of an outbreak or public health risk, and of having strong relationships between public health physicians and hospital physicians and infection control staff, is glaringly obvious. Public health was only as effective as the information it received. In turn, hospital officials often turned to public health for guidance on the management of cases and risk to staff, visitors and patients. Yet for the most part, communication between public health physicians and hospital physicians occurred over the telephone. As one infectious disease specialist noted, telephone opinions and consultations run the risk of miscommunication and misunderstandings:

> It was easy to talk over the telephone and say, I don't believe it. But if you are in charge of an epidemic, where it's so important, why wouldn't they send somebody down to actually look at the patient and go over the records? I mean, I know they have a nurse there, but sometimes there's nothing like being on site to actually see what's going on. People may emphasize the wrong thing [in a telephone conversation] or somebody may take away from a conversation something that, that's why we go and see patients … Sometimes when you see the patients, it's a completely different story. You know, there's a completely different interpretation from hearing it over the phone.

The story of North York General is rife with systemic communication problems, like the entire story of SARS. But when Public Health physicians were on site, things were much better. On May 23, the problems became clear and decisions were made in consultation with the on-site Public Health physicians. After May 23, Public Health physicians continued to work on site at North York General, providing valuable advice on the epidemiology of the outbreak and helping to identify and track cases.

During SARS, Toronto Public Health lacked the resources to regularly have physicians on site in key hospitals. As noted earlier in this report and in the Commission's first interim report, the public health capacity for on-the-ground assistance must be strengthened. No system can continue to rely so heavily on the volunteerism and goodwill of outside experts, and it is clear from SARS that the most effective support is an on-site presence.

May 20 Meeting with Emergency Room Staff

By May 20, front-line staff had seen Patient A's family and Mr. and Mrs. O come in through the emergency department at North York General Hospital. They knew that both families had connections to the hospital, back to when there were known SARS patients in the hospital. They knew that other doctors, whom they respected and trusted, thought these patients had SARS. That, combined with their own experience, led them to question why these cases were not being identified as SARS cases, why they were on regular medical units and not on the SARS unit, why precautions had been relaxed and why the message they were getting was that SARS was over.

By May 20, worry and fear in the emergency department had reached a boiling point. On that date, emergency room staff asked to speak to someone in authority about what was happening and what had taken place with the family cluster. That afternoon, an impromptu meeting was held with the staff of the emergency department and hospital officials, at North York General Hospital. Much like the meeting between senior hospital officials, including Dr. Mederski, and the psychiatry staff, the meeting with the emergency room nurses seemed focused on convincing them that they were wrong, that SARS was gone.

The Naylor Report describes the meeting:

> In mid-May physicians and nurses in the emergency department assessed family members of the 96-year-old man with symptoms suggestive of SARS, and they were increasingly anxious about a continuation of the outbreak. Radiologists also expressed concerns to colleagues about sets of suspicious x-rays. Taking their cue from public health officials and citing the epidemiology uncertainty about how all these cases could be linked to each other, the hospital's infection control director and vice president of medical affairs tried to reassure emergency physicians and nurses at a tense meeting on May 20th.[739]

But nurses who attended the meeting did not describe a sense of reassurance. Rather, descriptions from some of the nurses who were at the meeting conveyed to the Commission a sense of dismissal and disregard for their opinions and legitimate concerns.

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[739] Naylor Report, pp. 39-40.

One nurse described the meeting as tense and said that there was anger and frustration on the part of the nurses:

> There was great tension in the room, and there were some very angry, very frustrated nurses. One of the nurses, actually stood up and said to Drs. [Glen] Berall and [Barbara] Mederski, you're all lying, I don't believe any of you. Many of the nurses said that they would just like to know at least then, can we have our masks, if you say it's not SARS. And then when Mederski said, well we see these things often, you know, we do see them only we just don't look for them and now we're looking for them so we're going to see them.
>
> And one of the nurses said, well, it's interesting because I've been a nurse for about 20 years, and maybe you've seen them, but I've never seen acute viral ailments written down as the diagnosis so many times. And if these patients aren't SARS, why are we doing the SARS work-up, the kit, and that's when they said, oh, we mean to change the name, it's going to be the CAP kit, the CAP [community acquired pneumonia] work-up, because there is no real test for SARS and it's just community acquired pneumonia and you're just going to have to get used to seeing this. And that it's just not SARS. Over, and over, and over again.

Emergency room staff told the Commission that the message conveyed at the meeting was that they should listen to the infectious disease specialist:

> And one of the clerks asked and said, well, you have to understand I've worked here for a while and there's a lot of physicians I've worked with, who I respect, over the years. And they're telling me that it is SARS, so whom do I believe. And Dr. Berall says that you ask the infectious disease specialist, and the infectious disease specialist is telling you that it's not SARS, so then it's not SARS. That she is the expert, not them and not you. It wasn't even, our considerations weren't even, unfortunately, there were physicians there; however, none of the physicians spoke up.

One emergency room nurse described the message of the meeting as follows:

> There is no SARS. We don't have a problem, there is no epilink, we don't see clusters. Normally there would be 20 or 30 people with SARS and I've been doing this for months, I know everything about it. At that point, they weren't even admitting the psych patients were SARS.

Another nurse described the meeting to the Commission:

> I sat in at the meeting with emerg when Dr. Mederski said, they did not have SARS. It was a family and she gave reasons for the contagiousness to its spread, said it was definitely not SARS and SARS was over. The nurses were telling her this is SARS; if it smells like SARS and it looks like SARS and acts like SARS, it's SARS. She said no, it was community acquired pneumonia and they should stop it. You know, stop talking like that.

Health workers who saw these patients and knew about their cases simply did not believe what they were being told. They did not believe that SARS was over. As the above-quoted nurse told the Commission:

> I happened to sit in on a meeting at the emergency department, just prior to SARS II breaking out. I wake up to CFRB every morning and there was an announcement on the radio "SARS is over in Toronto." An hour later I called my father in [name of city]. I said, you're going to hear that SARS is over in Toronto, you're also going to hear in a few days that it's not true because five people were admitted with it from one family.

One physician who attended the meeting agreed that the message was SARS was gone. He said:

> So here's how the meeting went, right. We were told basically there are no new cases of SARS. Two incubation periods have passed, assuming we knew what the incubation periods were, and there was thinking about seven to 12 days, seven to 14, those were about the figures, and SARS basically was no longer present in the hospital. That's a pretty profound conclusion. Not based on known information nor a history of knowledge about the disease called SARS.
>
> During the meeting, people were asking, some of the people, nurses in particular, were asking, in fact, nurses exclusively asked questions like, how can you be sure, this is a new disease, are you sure the definitions are appropriate? And we were given, those who gave information made the same statements again and again. The disease doesn't exist anymore, we've now had two incubation periods. This isn't just our opinion, it's the opinion of all the experts. Period. Further questions were asked, the same statement was repeated. I think if we were in the same situation in 2016,

> people wouldn't dare be as blunt about it. At least not everybody. You know, we've been wrong before …

Many nurses felt that their experience and judgment were being overlooked and belittled in favour of applying a strict case definition. As one nurse told the Commission:

> She [Dr. Mederski] said that she's going by the guideline that was set out by the Ministry of Health. The definition that says it has to have a link and that they've done tons of research and all the epidemiologists in the city and all the epidemiologists over the world and all the ID [infectious disease] people, they talk, and they're all experts and written papers, and they know so much more about this disease and I mean, come on, girls, really, I mean, really, that's how you felt, like, come on, please, don't insult us.

Dr. Mederski told the Commission that she thought the thrust of the meeting would be to talk about the new normal. As noted above, Dr. Mederski told the Commission that by the evening of May 19, her private opinion was that these were probably or maybe SARS patients. But as in the meeting with the psychiatry nurses earlier in May, she did not express this opinion to staff. Instead, she, along with Dr. Berall, the co-chair of the SARS Management Committee, repeatedly told staff that the cases were not SARS and dismissed their fears. Dr. Mederski said that she did not feel that she dismissed concerns and that it was not her intention to do so. She felt confident that the patients in question posed no risk to staff, as they were all being treated in respiratory isolation. Based on her discussion with Public Health, she felt that they did not think these cases were SARS and that it was safe to continue to relax precautions. As noted above, Public Health officials say that they never said these cases were not SARS, that they were concerned about these cases; they understood that it was Dr. Mederski's opinion that these patients were not SARS and that decisions with respect to precautions fell to the Province through the Provincial Operations Centre.

Dr. Mederski described her view of the meeting to the Commission:

> Question: Now as you went into it, you in your own mind had some people in mind that you thought were maybe SARS cases, was that [Patient A] and [Mr. O]?
>
> Dr. Mederski: Yes.
>
> Question: Anyone else?

Dr. Mederski: That's all I can say now. Oh, no, no, no. There was one other lady whose name I don't remember right at the moment at all, who was extremely sick with a respiratory problem. And she was on the main, on the regular ward, and I treated her, and we eventually did do SARS testing and it came back negative but for a while at first she sure looked like a SARS case, and so I also had this one other patient who is not on your list.

Question: But certainly you had the [Patient A family] and Mr. O?

Dr. Mederski: And [Mr. O] in particular. As I said, the thrust of the meeting was not to say yes or no, these are SARS cases, but it was to allow the hospital to proceed with the new normal and as I said, I was hoping subliminally nobody would ask me whether or not these cases were or were not, because I would have to toe my line starting Saturday morning, 6:30 in the morning, when I had the first call about these cases coming through.

Question: You would have to essentially say they weren't SARS?

Dr. Mederski: And I did speak to this indirectly at that meeting.

Question: All right, so now you attended the meeting and who was at it and what was the tone, and what's your recollection of the course of the meeting?

Dr. Mederski: It was a very difficult meeting. I came in with Glen [Dr. Berall], it was a small room in the emerg department, in the nurses' lounge area. It was packed to the rafters. It was noticeably absent of physicians, who were walking outside of the room in the hallway, not wanting to show their faces, almost as if, you are in for it, we are not …

… It was all the nurses and some administrators and some clerks, like ward clerks, and the atmosphere was very tense. It was very, you could tell, really, it was tense in the air. Two nurses came in, two nurses who work regularly, two senior nurses there, who basically fired off some questions during the course of the meeting and one of that of them had to do with the SARS kit, that was no longer the SARS kit, but it was this other kit, that I had designed.

Question: The Respiratory Infection …

Dr. Mederski: Respiratory Infection Specimen Kit. I coined it and I thought I was being so brilliant when I thought this one out.

Question: Respiratory Infection Specimen Kit?

Dr. Mederski: Yes. So somebody said, are you hiding something from us. You are still collecting these specimens for SARS. And I said, yes I am, and I will continue to do so in appropriate cases and this is a perfect opportunity to carry on this way as part of our new normal forever in this hospital, that when patients come in with respiratory symptoms, we should be doing this anyway. This is something that we should be doing forever, not just now, not this year, but forever.

And you know, that bothered me, that somebody would somehow imply that I was lying because I am changing the word from the SARS kit to RISK kit, when I was actually trying to be a good Samaritan and do something the right way for the hospital to get the specimens identified the way we have always dreamed of doing. And the other had to do with all these people coming in that I had mentioned earlier, that there was this feeling among the nurses that there was a huge number of patients coming in with respiratory infections. So I did say that I had spoken to [Dr.] Tamara Wallington, that I had spoken to [a TPH physician], that I had spoken to [Dr.] Elizabeth Rea, that I had also spoken to other hospitals, that I had spoken to my professional colleagues, some of them, and that outside of the Centenary [Hospital], everybody else had already downgraded, before we were even talking about it. And that I felt it was safe to do so.

Then they proceeded to say, we are having our equipment taken away from us, do you agree with that, our protective equipment? And I had been already primed by [the two nurse managers] that what they were going to do was make the PPE a little less strategically available. So instead of having a parked cart on every single doorstep on emerg, they were going to move these carts away, a little bit further so there was less ease of grabbing another mask or grabbing a gown, just willy-nilly getting all gowned up at any time, that it would have to be thought out. Yes, they would still have access to equipment, but it would not be at every corner. They were going to ease out this way. This was their strategy. And so I said, I know that nothing is being taken away, I know that it's available to you, and yes, I totally agree that in emerg you should have availability of all this as you need it, and triage is the most vulnerable area, but we still have to proceed forward even along the lines of what the MOH [Ministry of Health] said, the Ministry said is the new normal.

Then I gave little lecture on atypical pneumonia and microplasma pneumonia and how they present and how they have a very high contagious rate in families, this is well known, and I think that's the comment that may have turned off some people because as I later heard that I was "putting people down" and something like that. And it may have been that "was well known" concept that I alluded to. But I said frankly it is well known. Respiratory infections of this nature are highly spread amongst families, it's just that they are mild enough that people usually don't bother and people go home and they sniffle and they take care of themselves and that's the end of the story. But from time to time people get very sick and crash and it looks just like SARS. So I was sort of rationalizing out loud why the cases that they had seen over the weekend were actually meeting the case definitions.

Dr. Mederski told the Commission that after the second outbreak was announced, she felt able to voice her true opinion about the cases and that she had a private meeting with the emergency room nurses to explain what had happened. Dr. Mederski said:

Dr. Mederski:	I repeated all that. I repeated everything. And I think I also said, you don't realize what pressure I've been under. Feeling one thing, being told differently, repetitively over the last two months. There comes a point when you finally just have to say what you're told to say, or what you're expected to say. And at no time have I been upset at anybody in particular, other than the fact that I was upset when somebody mouthed off about my RISK kit, about being a hiding effort on my part, to hide something, activities going on. And the part that bothered me first thing was when they said that I was trying to hide information from them or that the information that I was hiding, just period, everything to do with SARS information, that I was hiding SARS cases. I think the thing that crossed my mind over that whole period of time was, was I hiding these cases, or was I just so ambivalent or schizophrenic that I just didn't know what to do anymore and what to say, and proceeded to do what I did, treat them and whatever, but wasn't comfortable in speaking in the same way I did when I spoke about the psych cases. I was hurt.
Question:	Did you feel the second meeting went better than the first meeting?
Dr. Mederski:	Yes I did. And I felt that there may have still been some people that were maybe still not convinced but nevertheless I felt much better and the one nurse that had been very angry came up to me later and said, you know, we did feel that you were not being fair with us etc., but I feel a little better now.

Question: Tell me if this is accurate, the second meeting, seeing that the 23rd had happened, the hospital had closed, you were able to share with them …

Dr. Mederski: Yes.

Question: … then your feelings about the pressures you were under …

Dr. Mederski: Honestly.

Question: … which included the pressures you've described, to sort of say what you were expected to say?

Dr. Mederski: It was definitely more easy. But when the question came, well, why didn't you tell us this earlier, because it did come up, you know, it was very hard to give an answer to that, because I said, there comes a point when you can't say something definitively because we don't have a definitive test, and you know, we've been doing this now for three months, I'm exhausted, and I have to say I did the best I could at that point. And I feel badly if somebody was offended, but it was definitely not intended to offend anybody, or belittle anybody's concerns. That was really what the whole intent was, to indicate that I wasn't belittling anybody's concerns, but that I too was offended by their offense, at my seemingly being, lying, coy, whatever the words are that come to mind.

Dr. Berall, the other hospital official at the meeting, described the meeting from his perspective:

Question: That was a May 20th meeting, I think you were at that meeting?

Dr. Berall: Yes.

Question: Dr. Mederski was there?

Dr. Berall: That's correct.

Question: That was a meeting where concerns were expressed. It's been suggested perhaps that it was pretty categorically told to those who were expressing concerns that the cases they were concerned about were not SARS. Do you recall that meeting?

Dr. Berall: Yes I do.

Question: Do you recall that sort of descriptive suggestion of how the concerns were being addressed?

Dr. Berall: I recall lots of questions about the cluster or clusters of patients that arrived in the emerg that prior weekend. And I recall Dr. Mederski answering questions about the clusters and hearing people's concerns and informing them that the clusters were reviewed with Public Health. There were considerable discussions and questions back and forth on that, and she informed them about the discussions with Public Health and that they were discussed and ensured that each of the cases they had in mind were discussed and identified, that some of them had different illnesses that were proven by diagnosis and that Public Health had deliberated, considered the cases and determined that they weren't SARS.

And she answered the questions about how they were addressed, that they were isolated, that they were still in isolation, that they were in respiratory droplet precaution. Because the emerg protocol had had the triage nurses in PPE and all respiratory droplet patients streamed into a PPE protective stream, that nobody had had any exposures. The emerg staff knew how to wear their PPE and they were following the policies. And so that those things had been done. Public Health was the one that made the call is it or isn't it. The infectious diseases specialist ensured that they were addressed in proper precautions as probably so did the opinions of the other health care professionals as a team. People all agreed that they should be in respiratory precautions.

> What was debatable was the diagnosis, but Public Health said it was not SARS.

Dr. Berall told the Commission that at the time he had no reason to doubt what he understood from Dr. Mederski was the opinion of Public Health, that these people were not SARS:

> If it was obvious, something different would have been done. It wasn't obvious. At least, it wasn't obvious to us, and based on the knowledge at the time, it wasn't obvious to apparently Public Health either, and they were considering more than just North York General. They had the bigger picture. But based on the knowledge at the time, they judged that it was not SARS and according to the directives, it didn't fit the diagnosis of SARS. What do you tell those people? I don't know what you're referring to when you're saying that they're being told it's gone. I guess you might be referring to the directive that said we're in the recovery phase.

But because of staff concerns expressed at the meeting, Dr. Berall said, at the end of the meeting he once again asked Dr. Mederski to consult with Public Health, to ensure that the message they were giving staff was correct:

> … after the May 20th meeting concluded, I asked Dr. Mederski to call Public Health once again and just check with them once again. Tell them that our staff was concerned and convey that concern and ask them the question that were raised and they gave the same answer as they had given before.

Dr. Berall said that he thought that staff questions were answered, that the tension in the room had seemed to come down and that, after the meeting, he sincerely understood that staff concerns had been addressed and that staff had felt heard. This understanding was supported by an email he later received from one of the emergency room managers, expressing thanks for the meeting. He said that later accounts of the meeting were inaccurate and that it was not his impression of the meeting that Dr. Mederski was saying SARS was gone:

> Dr. Berall: … I certainly didn't come away from the meeting with the impression that Dr. Mederski had said that SARS is gone. I didn't get that impression from that meeting.

Question: But that she was answering specific questions about specific cases.

Dr. Berall: Yes, she definitely did that. Was there a little bit of tension in the room? At the beginning, there was tension in the room and Dr. Mederski was the first person to answer questions because the first questions were about clinical cases. So, you know, in a room full of a bunch of people who are anxious or concerned or whatever, it starts off with interpretation. I have an e-mail that I wrote to the clinical chiefs the day after that meeting that, sort of speaks to my perspective on that meeting. I know the *Toronto Star* article said something about people storming out of the meeting. They weren't at the meeting that I was at because nobody stormed out of the meeting. People seemed to be calmer at the end of the meeting and I actually got a thank-you note from the unit administrator from emerg for coming and speaking to the nurses, that they felt it was helpful. So, I don't know why she would thank me for coming to a meeting and creating an atmosphere where people would storm out. That doesn't make sense.

Dr. Berall said that staff were listened to but that there was a divergence of opinion and that the hospital went with the opinion that they understood reflected the consensus among the experts:

> I think there's a difference between being listened to and sharing the same opinion. And I think that whenever there was a concern raised, that we were aware of, we would meet with the staff and have a discussion and hear what they had to say, listen to their concerns, provide them with information pertinent to their concerns, any information that they wanted, and we answered all their questions and then took whatever steps seemed appropriate in response to that. So I have a lot of respect for my health care professional colleagues. I don't share the opinion that they weren't listened to. They were listened to, they were heard, I feel, but you know, the steps were taken that I think were appropriate in response to that.

Although some staff continued to be upset after the meeting, not everyone felt that way. As noted above, an email sent the following day, May 21, 2003, from one of the nurse managers in the emergency department thanked Dr. Berall and Dr. Mederski for their assistance and said that staff reported their appreciation for the meeting. The email promised:

> I wanted to take a minute today to thank you for your assistance yesterday as we struggled with the new directives and moving forward. Friday, staff were so excited to be able to lighten the restrictions and yet throughout the weekend fear seeped in again. Today the staff expressed appreciation for the opportunity to ask questions, share their fears and discuss how we move forward. Personally I thank you for your support yesterday and throughout the past weeks.

Dr. Tim Rutledge, Chief of Emergency Medicine, was away on the long weekend and returned to work on Thursday, May 22. He said that he heard about what was happening and became aware that there continued to be anxiety among staff. He said he spent much of the day trying to understand what was happening. He said that although the use of precautions was no longer required, equipment was still available and its use was optional. As noted below, this was a key feature of the emergency department story, the fact that although these patients were not SARS, staff were given the means to use their own judgment to protect themselves and could continue to use protective equipment.

Whatever the intention of those who presented at the meeting, despite the differing perceptions between Dr. Berall, Dr. Mederski and those nurses and doctors at the meeting who reported as quoted above, it is clear that some of the staff came out of that meeting feeling that they had been dismissed. The problem was that, much like in the meeting with the psychiatry nurses, this meeting seemed focused on placating or calming the nurses rather than on acknowledging their legitimate concerns. As one emergency room nurse said:

> If there had not been the denial that SARS was still around, when it very obviously was. I know it was a new disease, but you know, if it looks like a duck, it walks like a duck, and it quacks like a duck, it's got to be a duck. And what they kept saying is, no, no, no, it's a figment of your imagination. And if someone comes in with symptoms of typhoid and tests positive for typhoid, whether there's an epilink or not, that patient has typhoid … When are you people going to learn to be up front with us. "We don't know if it's SARS, we want you to protect yourself," that

> would make sense to me.

This was a group of highly trained, diligent health workers who had provided front-line care for SARS patients for almost two months. Concern about these patients was shared among the emergency room physicians and internal medicine specialists who were involved with them. Even if the doctors did not attend or speak up at the meeting, their actions, in ordering tests, in placing the patients in isolation and especially in requesting admission to the SARS unit, clearly conveyed their concerns. Moreover, their concerns were captured in the consultation notes in the respective hospital charts. It is difficult to understand why, notwithstanding any beliefs about opinions from Public Health, the concerns of front-line staff were not acknowledged as possible. It appears that there was no system to ensure that the physicians' concerns came to the attention of anyone other than Dr. Mederski and no way to ensure that all relevant front-line informed opinions were systematically assessed and considered in an organized fashion.

Nurses and other health workers were receiving mixed messages. Dr. Berall and Dr. Mederski were telling them it was safe to remove the protective equipment, that the cases were not SARS, yet emergency room physicians, with whom they had a long-standing working relationship, whom they respected and trusted, were still wearing full protective equipment at all times and were voicing their concerns to staff and advising them to do the same.

The emergency room physician who saw all four of the Patient A family members said that he was upset because he felt that if they had treated the SARS patients as suspect until proven otherwise and had maintained precautions, people might not have gotten sick:

> If you look at who got sick in the end, by far most of the nurses that got sick were the 4th-floor nurses. The one that died was from the 4th floor. They all, the majority were from the 4th floor, because they had no more protection. Had they continued protection, had they treated everybody as suspect till proven otherwise, many of these people would not have gotten ill, that's for sure. So, I was very, very, very upset because in this particular case, this coincidence of me happening to see four patients, and I was working so many shifts because nobody else was coming to work, that I happened to be in a unique position where I actually saw four of these patients on the days they came in.

> And when you have all that, and she [Dr. Mederski] knew about every one of these patients, she could not say, wait a minute, guys, something is happening here, four people, same family, all with pneumonia, it's suspicious, at the very least it's suspicious, let's play along with this paranoid guy and let's pretend they have SARS, but let's prove him wrong, let's wait for the blood test … but no, that's not what happened. She went around, in fact at that period, telling the nurses in the emergency room, pooh-poohing us, me and [another emergency physician], that we were perhaps being a little paranoid and as proof she was there in her own little civilian uniform, eating lunch in the nurses' lounge, while all of us were walking around garbed, listening to her telling them not to be concerned and that there is no problem.

The Role of Dr. Mederski

It would be unfair to blame the second outbreak on Dr. Mederski. No one person could be responsible for the second outbreak. As one infectious disease expert said:

> I have known Barb [Dr. Mederski] for a long time and I think that there were mistakes but I don't think we can blame it on just her. We all sort of blew it, but she sort of was unfortunately right in the middle of it.

There were many factors that occurred that were totally beyond Dr. Mederski's control and knowledge, among them the outbreak of respiratory illness on 4 West and the knowledge that there were sick staff on 4 West. It would be unfair to expect Dr. Mederski to have figured out what so many others also missed: that SARS had never left. Dr. Mederski explained to the Commission that the 4 West connection did not come together before May 23:

Question:	I do get the sense though that, having regard to the way your antennae worked when you were seeing psych patients and [Patient A Family], that had you seen that information that was tabled on the 23rd about 4 West, that you would have reacted differently.
Dr. Mederski:	You know, I don't know what I would have done. I have no idea, because I wasn't in that position, and hindsight is always great. Had I been able to extend the link from Mr. O on the previous long weekend and follow a

> thread, had I had energy and my usual inquisitiveness, which I usually do, maybe I would have tweaked to something earlier.

Dr. Mederski did not know that there was an unidentified outbreak in the hospital, or that there were unidentified patients, not isolated, being cared for by staff without protection.

It is clear that Dr. Mederski sincerely cared for the well-being of patients, visitors and staff at North York General Hospital. Whatever decisions she made, the Commission accepts that they were made in good faith. Many physicians interviewed by the Commission described her as a conscientious physician who worked extremely hard during SARS. As one North York General physician said:

> Dr. Mederski worked terribly long hours. She's an extremely conscientious physician.

The problem is that Dr. Mederski was simply one overwhelmed individual, left largely on her own, without professional supervision or systemic support to manage an enormous responsibility that required a level of management and communications experience to which she had not been exposed.

Underneath everything that happened at North York General, there is a clear picture of a tired, overworked physician who lacked supervision and whose clinical judgment and personal views had somehow become overborne throughout the course of SARS.

One Toronto Public Health physician said that the workload imposed on Dr. Mederski and the other members of the infection control department was huge, and that it probably prevented her from seeing the bigger picture of what was happening:

> There were sick people and overworked clinicians looking after very sick people and the infectious disease department appeared very strained in terms of resources and who knows if they had a huge volume of cases and very few people could see them, one of whom [Dr. Mederski] appeared unwell, and whether that person ever had a chance to step back and try and see a big picture, and I think it required to be able to have a look at a big picture.

This physician also noted that when they were on site on May 23, Dr. Mederski appeared exhausted and unwell:

> She appeared not to be well and exhausted and was being called all the time from all over the hospital while we were there. I think it was exhausting to look at, how one person could possibly manage all this. Her beeper was going off all the time. Everybody was asking her to see consults all over the place. It is very difficult in that kind of a situation, you're seeing all the trees, you're missing the forest.

As noted earlier, there are differences of recollection between Dr. Mederski and those with whom she dealt at Toronto Public Health. This is one area of the Commission's investigation where recollections differ in respect of important facts. The Commission process lacks confrontation and cross-examination and lends itself well to getting frank and open evidence but less well to the resolution of disputed recollections. Because the Commission makes no adverse findings of fact against any witness and no criticism of any individual or organization arising out of these disputed recollections, no confrontation or cross-examination was required. Wherever there is a significant difference of recollection between witnesses in respect of a material fact, each witness, as fairness requires, was given the gist of what was said by those whose recollection differed.

Because the root problem with the undetected family clusters was systemic and not personal, it may in one sense not matter very much whose recollection is better.

It would however be unfair to Dr. Mederski and to those whose recollections differ to leave the difference of recollection entirely up in the air. It is obvious that Dr. Mederski and all those whose recollections differ from hers gave the Commission their best recollections of what happened.

Dr. Mederski was largely on her own with a huge personal burden of responsibility and no backup in the sense of ongoing organized professional supervision and support, especially in May, when the hospital concentrated its attention on the return to normal operations. Unlike those who worked in Public Health, she was not part of an organized and closely supervised system with vast experience in the timely and effective recording of epidemiological data and evidence. It is only natural in the circumstances that her recollection should be more impressionistic and less exact than that of those in the investigative business of systematically noting and logging and charting and recording and reporting and verifying, as they arose, the contemporaneous conversations and pieces of evidence that bore upon the question of whether the patients had SARS.

The Public Health witnesses worked within a system that required them to note and log and chart and record significant conversations and pieces of evidence contemporaneously without having to rely on their memory months or years later to reconstruct what they thought must have happened. Unlike the Public Health witnesses, Dr. Mederski lacked the advantage of such a system.

These profound contrasts in their respective working environments and information logging systems give the Public Health witnesses a great advantage over Dr. Mederski in their respective abilities to recollect accurately what was said.

For this reason alone, the recollection of the Public Health witnesses is on balance likely to be preferred to Dr. Mederski's best attempts to recall and to reconstruct what happened in that time of enormous pressure and responsibility when she was so alone and under great stress and indeed ill.

This likelihood is reinforced by the manner in which Dr. Mederski expressed her recollection, in language sometimes vague, tentative, unsure and occasionally characterized by circular interior dialogue with herself, in contrast to the direct and objective recollection expressed by the Public Health witnesses.

Dr. Mederski in some areas relied not so much on her actual recollection but on her later rationalization ("trying to rationalize") of what she thought must have happened. At times she relied more on her intuitive interpretation of what she thought someone meant instead of relying on what they actually said ("the vibe I am getting," "I am getting the feeling").

Dr. Mederski was openly tentative and unsure about significant aspects of her evidence ("I can't be sure," "it could be," "I am trying to think," "it could have been," "it may have been," "I don't remember," "I would not be surprised that would be," "the conversation would have gone something like," "I was trying to understand," "but I still never understood what it was"). This quality in Dr. Mederski's evidence makes it difficult to prefer her evidence over the direct and focused evidence of the Public Health witnesses.

It may be that she sometimes focused more on her own subliminal interior monologue than on what was actually said by her to others and by others to her ("that was all in my mind," "I was hoping subliminally no one would ask me," "was I just so ambivalent or schizophrenic that I just didn't know what to do anymore and what to say").

Dr. Mederski's answers to the Commission's questions sometimes tended towards indirection, and it appears from those answers that she was not always direct in what she said to the Public Health witnesses. The following question and answer furnish an example of both problems:

Question:	Did you express any opinion to them on the 20th or when you spoke to Dr. Rea on the 19th, did you express any opinion to them about your own feelings, your own thinking about what these cases were?

Instead of saying "no," Dr. Mederski said this:

Dr. Mederski:	Well, I was concerned enough to personally call them and nobody had asked me, the hospital administration had not asked me, nobody else had asked me. My concern was manifested by definition in the fact that I phoned these two individuals to ask about, an open-ended question effectively to say I have these cases, should I be concerned? The staff are concerned, these are mild cases, except for [Mr. O], they look like some of the SARS cases we've had. But I didn't say, oh, I have five SARS cases. I was more, it was a rhetorical type of open-ended mulling …

Although this lack of directness in answer to the Commission's questions and the lack of directness in her discussions with Public Health officials do not detract from her honesty or her best efforts to assist the Commission, it does detract from the reliance one can safely put on her recollection as opposed to that of the Public Health witnesses.

A strong reason to scrutinize Dr. Mederski's evidence closely is the fact that Dr. Mederski decided on May 20 to tell the nurses the very opposite of what she thought. She told the Commission that she assured the nurses on May 20 that the family cluster did not have SARS when she in fact believed they probably or maybe had SARS, and she set out in detail her reasons for telling the nurses the opposite of what she thought. Whatever one may make of her rationalization for her conduct, this regrettable incident suggests that this hard-working, compassionate and overwhelmed physician laboured at the time under a measure of internal conflict and perhaps an element of confusion about her role and her accountability that made it difficult for her to communicate accurately and directly at all times what was in her mind. Dr. Mederski's ability to talk herself into telling the nurses something she thought was wrong is a further reason to prefer the evidence of the Public Health witnesses when it conflicts with that of Dr. Mederski.

There is another reason to prefer the evidence of the Public Health witnesses: the greater plausibility of their evidence with regard to its harmony with the undisputed facts and surrounding circumstances at the time.[740]

It is implausible that Toronto Public Health, concerned about the A family cluster, following them closely and looking closely for any evidence or reasonable suspicion of SARS, would ignore or fail to record any suggestion by Dr. Mederski that she suspected that any family member had SARS. It is implausible that Toronto Public Health, at a time when they were actively investigating many cases to see if there was evidence of SARS, would give Dr. Mederski a blanket assurance that SARS was gone and that she need not be concerned about suspicious cases.

Because of the advantages enjoyed by the Public Health witnesses over Dr. Mederski in respect of contemporaneous records and the systems that support the accuracy of their current recollection, and because of the inherently greater probability associated with the recollection of the Public Health witnesses, and because of the often tentative nature of Dr. Mederski's recollection and the other difficulties with her evidence noted above, the recollection of the Public Health witnesses is preferable to the attempts of this hard-working, compassionate and overwhelmed physician to reconstruct and recall what was said during a period of enormous personal stress.

There is no evidence that Dr. Mederski or anyone at North York General withheld information from front-line staff for any improper purpose. Both Dr. Mederski and the authorities thought that the patients in question posed no risk to others because they were isolated and handled with precautions although not diagnosed as SARS cases.

The evidence reviewed above does, however, disclose serious systemic failures.

Having accepted the evidence of the Public Health witnesses in preference to the evidence of Dr. Mederski for the above reasons, the finding of fact follows that there was a breakdown in communications at Dr. Mederski's end between North York General and Toronto Public Health in respect of the A family cluster and the O family and the evidence of the re-emergence of SARS at North York General Hospital in May. There was no system to supervise Dr. Mederski and ensure effective communication between the hospital and Toronto Public Health with respect to the growing evidence that SARS had returned.

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[740] As a great judge once said,

> The most satisfactory judicial test of truth lies in its harmony or lack of harmony with the preponderance of probabilities disclosed by the facts and circumstances in the conditions of the particular case.

R. v. Pressley (1948), 94 C.C.C. 29 per O'Halloran J.A. at p. 34.

Dr. Keith Rose, Vice-President, North York General Hospital, when asked about Dr. Mederski's supervision, said this:

> Question: To whom was Dr. Mederski accountable?
>
> Dr. Rose: To whom at the hospital?
>
> Question: Yes.
>
> Dr. Rose: First there was the Chief of Medicine, Dr. David Baron, and then through the Chair of the MAC [Medical Advisory Committee] and then through the Board. From a medical practice, medical quality.
>
> Question: Who was her supervisor?
>
> Dr. Rose: That is difficult to say. Dr. Baron, indirectly, but he wasn't in infectious specialities, so his supervisory capacity would be limited, so he may not be able to assess her medical quality of care, he could assess some other aspects of her practice.

Neither was there any system to ensure that the clinical judgment of the front-line physicians who strongly suspected SARS at the time was noted, received, analyzed, investigated and assessed in an organized fashion. In the absence of such a system, their crucially valuable evidence suggesting the return of SARS went into a black hole.

It is most regrettable that Dr. Mederski did not communicate to anyone in the hospital or to Public Health her concerns that the clusters of patients in May may have SARS and doubly regrettable that the accurate concerns of the nurses to the same effect were denied by Dr. Mederski and dismissed by hospital authorities.

The nurses who were present at the meeting on May 20 feel that the hospital did not listen to them, and the hospital feels that it did listen to them but simply happened to disagree with them. The difficulty with the hospital's position is that, unbeknownst to the hospital, Dr. Mederski agreed with the concerns of the nurses, as did a number of experienced front-line physicians whose suspicions and concerns never got past Dr. Mederski. There was no system of supervision or communication or support to ensure that all the appropriate evidence, including Dr. Mederski's actual views and the views of the front-line physicians, were investigated, weighed in the balance with the perceptive and accurate concerns of the nurses, and then considered by someone other than Dr. Mederski, who at the material time bore almost single-handedly the overwhelming and unsupervised burden of decision making in relation to SARS diagnosis and investigation at North York General Hospital.

This topic cannot be left without a final word about Dr. Mederski.

Dr. Mederski carried a huge burden with very little support. She worked hard to the point of exhaustion and beyond, ill and under great personal stress. The hospital, especially in May, when it focused on its return to normal operations, relied on her entirely, with no system to supervise her or back her up. She was the hospital's sole gatekeeper for SARS in the sense that it was she and she alone who decided who went on the SARS ward and who did not and she had the sole effective say within the hospital as to who was diagnosed with SARS and who was not and the sole responsibility to communicate at a working level with public health. This was an enormous responsibility, an overwhelming responsibility for one person to bear.

Enough has been said above about Dr. Mederski's decision to reassure the hospital and the nurses on May 20 that the family clusters, which so alarmed the nurses and front-line physicians, did not have SARS when Dr. Mederski in fact thought they probably or maybe had SARS. Enough has been said about the reasons for preferring the evidence of the Toronto Public Health physicians to that of Dr. Mederski and enough has been said about the breakdown in communications at Dr. Mederski's end between Toronto Public Health and North York General Hospital.

To some at North York General, Dr. Mederski personified the problems associated with the second outbreak. To others she was the exemplar of a dedicated physician working impossibly long hours beyond the call of duty.

It was Dr. Mederski's misfortune to be saddled with enormous responsibility without an office, without dedicated time, without the support of a comprehensive surveillance programme and without the support of supervision and backup. To this was added a unique professional burden as the solitary gatekeeper, the only physician in the hospital authorized to make a formal SARS diagnosis and admit patients to the SARS ward. As noted earlier, the Naylor Report described her situation as an example of the general systemic weakness in Ontario of systems to prevent the spread of infectious diseases within hospitals:

> Although infection control practitioners attempted to institute comprehensive surveillance programs in some hospitals, such a program alone requires approximately 2 full-time staff members for a 500-bed hospital, more than the majority of hospitals have on staff for all infection control tasks. At North York General Hospital, for example, one full-time and one part-time infection control practitioner were responsible for 425 acute care beds. The infection control director[741], Dr. Barbara Mederski, occupied the role without any salary, protected time, or even an office.[742]

Dr. Mederski was not a free agent. It would be too easy to make her the scapegoat for systemic failures in the prevailing provincial machinery of outbreak management. It is speculative whether someone else might have listened more carefully to the concerns of front-line doctors and nurses, whether someone else might have taken the evidence at North York General as an opportunity to investigate further and more systematically.

The problem at North York General, shared by other hospitals and the entire apparatus of outbreak management, was that there was no system to scrutinize the application of the case definition, to look into concerns that it might miss cases and to require immediate investigation of any credible evidence suggesting that undetected cases were spreading throughout the hospital. There was no system of surveillance to pick up the unusual number of deaths or the sick staff or the family clusters and thus trigger an immediate epidemiological investigation.

These things cannot be left to happen on their own. It is not enough to hope that someone in Dr. Mederski's position might sense the fact that something was wrong and might have the personal initiative and entrepreneurial drive to buck the system and insist that something further happen by way of investigation. Public safety from disease cannot be left to the accident of personal initiative. Public safety requires adequate systems. Public safety cannot depend on the unsupervised and unsupported private initiative of whoever happens to fill a particular job at a particular time. What is needed is a system to ensure that danger signs are picked up and promptly investigated. What is needed is a system to ensure effective supervision and communication under clear lines of authority and accountability within hospitals and between hospitals and public health.

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[741] In fact, although her role and responsibilities suggested that she occupied the role of the director of infection control, Dr. Mederski was not in charge of the program. She was an infectious disease specialist during SARS and, while her work as such involved overlap with infection control, she was not in charge of infection control. Dr. Mederski described her role as providing ad hoc, informal advice for infection control on an as-needed basis. She did not have dedicated office space, time or support and did not have supervisory authority over the infection control staff or their program.

[742] Naylor Report, at p. 39.

It would, as noted above, be unfair to scapegoat Dr. Mederski, a caring and conscientious physician who was overworked, unsupervised, overwhelmed, ill and unsupported by the kind of systems that should have been in place throughout the province. The second outbreak, as noted earlier, could have erupted at any other SARS hospital and it was the misfortune of North York General that it happened to strike there. The tragic mistakes and failures that led to the second outbreak were systemic, not personal to Dr. Mederski or to anyone at North York General Hospital. The task ahead is not to search for scapegoats but to improve the systems that defend us against infectious outbreaks and to ensure that this horrible tragedy does not happen again.

SARS Is Over

As noted above, the backdrop to the Patient A family cluster is that by the middle of May, 2003, the message in Toronto was that SARS was over. One North York General Hospital emergency room physician agreed that after the travel advisory was imposed and subsequently lifted, it seemed that the focus shifted away from looking for new SARS cases:

Question:	Some doctors have suggested that there seemed to be a shift in the mindset of people after the WHO issued its travel advisory, that the focus went from finding SARS cases to trying to get rid of SARS. Any observations or thoughts on that? And not that it was a deliberate thing but it was always something that weighed at the back of people's minds.
Answer:	I think I kind of share that feeling as well, because it is so financially damaging to the economy, probably not just to the city, but even to Canada. So I think the case definition kind of shifted to include less of those potential cases.

Another physician said that he thought that there was pressure to relax restrictions to get Toronto off the WHO travel advisory. He said it seemed that there was pressure to have SARS go away:

> If you were aware of the media there was pressure because of the way it affected Toronto coming into the summer, to get Toronto off the WHO

> travel advisory because of the, if you will, the political/economic effect it was going to have. There was this will to have SARS go away and be declared resolved. And the impression was that started at a public health/governmental level rather than within a particular hospital.

He said that he was not aware of any evidence of actual political pressure but that it seemed that it was there:

> … a will, if you will, a general will in the community to have Toronto declared SARS free.

Another North York General physician said that in their view, the May 20 meeting was an attempt to convince staff that SARS was winding down:

> My impression was that at the time the hospital was trying to reassure the emergency department that SARS was winding down.

As one North York General emergency room nurse said, she thought there was tremendous pressure to downplay SARS but that they should not have downplayed it with staff:

> … there was a tremendous pressure on the politicians from the business community, or perceived pressure, to downplay the danger of SARS. But the danger was to downplay it to the staff who were looking after the patients. And to put the staff at risk. And to put all of the community at risk, because you're not containing it strictly.

None of the physicians, experts, provincial or public health officials interviewed by the Commission reported any pressure to not call a SARS case SARS. More will be said later in the report about the question of whether there was political interference during SARS.

But there clearly was a change after the travel advisory, a change that did not go unnoticed by front-line physicians who felt that the focus became more on convincing everyone that SARS was over and that the recovery of the city and of the economy was now the priority.

The problem was that no one could say that SARS was over or that SARS was gone. It was a disease that was still new and about which much remained unknown. With new cases being identified as under investigation in the city, cases that could not be quickly ruled out as SARS, no one could say with any certainty that it was over. No one could say with any certainty that there were no new cases of SARS when the possibility remained that there might be unidentified cases.

The story of the second outbreak underscores the importance of being cautious in moving forward in the face of a new and unknown disease. It also showed a disconnect between front-line health care providers and the decision makers at higher levels. Those front-line physicians who did not believe SARS was gone, who continued to use protective equipment, who continued to see patients whom they thought were SARS, were not asked what they thought. In the face of new directives, a move to a "new normal," the guard came down. And SARS came back.

Listening to Front-Line Health Workers

Emergency room staff had concerns about the family clusters that were coming through the emergency department in May. They did not believe, based on what they were seeing come through the emergency department doors, that SARS was gone. One emergency room physician recalled physicians' overall frustration at how these cases were being handled and physicians' disbelief in assertions that these patients did not have SARS:

> The other situation that I wanted to bring up was what went on when we had that cluster of five on the May long weekend [May 17th to 19th]. All of us in the department were anxious and discussing what was going on and without a question, we felt that that family had SARS. And we were frustrated that the people that were admitting, looking after those patients were not taking the concerns of the staff seriously, or at least that's what we felt. I heard the whole story from all the staff. I remember [the admitting physician] saying to me and others that if this isn't SARS, then this is an incredible coincidence. She was the fifth member of that family.

Based on their own suspicions, concerns and beliefs, they were able to take matters into their own hands and continue to wear protective equipment and to continue to have a high level of suspicion for new SARS cases.

Front-line staff, including physicians, had serious concerns about these patients, so why didn't hospital officials react to these concerns?

Dr. Rose said that he learned of concerns among emergency department staff on Tuesday, May 20, after he came back to the hospital following the long weekend. He said that although he did not attend the May 20 meeting, it was his understanding that Public Health did not think these cases were SARS and he was aware that there would be a meeting with staff to discuss the cases later that day:

> So, I knew the concern when I went to the hospital on the morning, Tuesday, May 20th, after the long weekend. I was in the emergency department. I talked to the assistant director because Tim [Dr. Rutledge] was signed out and there appeared to be a lot of confusion. Staff were wearing protective devices, despite my understanding that they stopped doing it the previous Friday. They were concerned about potential cases. I also had been told that Toronto Public Health investigated and there was a difference of opinion and that there wasn't a new alarm for SARS. The emerg director, the assistant, was looking for direction on what he should do. As the day unfolded, they had more conversations with Dr. Mederski and Public Health, and there was an agreement that there would be a meeting with the staff that night to discuss staff's concerns as well as the findings of Toronto Public Health and the issues around the weekend and this so-called cluster of people. As I said, I was not at that meeting.

Dr. Rose said that he understood that the patients were being treated in isolation with all the precautions but that at that time there were no alarm bells going off that this was a new SARS epidemic. He said that none of the front-line physicians approached him to say that they were wrong, that these cases were SARS. Dr. Rose said:

Question:	I guess really the issue, the two issues in May, if people didn't speak to you about it, they didn't speak to you about it, but our information is that at the treatment level, at the level of admission and treatment, front-line health care workers are saying both with respect to psych patients and [Patient A], we thought it was SARS, it's going up the way it was supposed to. Dr. Mederski is involved along with Toronto Public Health and others and what's coming to you is the opinion that it is not SARS.
Dr. Rose:	Correct, although we have pretty good relationship with our medical staff. We are available and visible. We did hold public meetings with the staff if they felt strongly, the medical staff I am talking about particularly, with their own chief of medicine, with me, our doors were

> open for people to come and say, look things are bad, you have got your eyes closed, and they did not come to us and do that.

Dr. Rose said that there were other avenues of communication in addition to raising concerns with him or with other senior administrators, if they had concerns about outside opinions or about Dr. Mederski's opinions:

> So we had another infectious disease specialist who people could have consulted with and said let's take a closer look. We had another sideline of communication through the Chief of Medicine. The Chief of Medicine was there. I talked to the Chief of Medicine on the 20th of May. We went through some of this. So even if those two things have been true, why weren't other sources used to raise the alarm bells? How sure were they of the diagnosis? In retrospect, yes the family of what appears to be many individuals, it all comes together very clearly now, but at the time …

Whether it was uncertainty about the diagnosis, hesitation to speak out, a concern about being a voice of dissent among what to many seemed to be a consensus among outside experts, or even just individual personalities that were not of the type to approach senior officials or to second-guess a consult by an infectious disease expert, the opinions of front-line staff were not made clear to senior officials. One physician who was involved in these cases said that although he was worried, he did not approach senior management with his concerns because he felt that he had raised them with Dr. Mederski and she was the expert. He said that it was not his personality to push at higher levels and that because there was no test to say it was SARS, and because the patients did get better, he left it with Dr. Mederski. As he told the Commission:

> I am that kind of person. I bring up my concerns and that is the end of it. I don't go up and beyond as some people otherwise would have done, you know, go to the higher levels and keep pushing. I have no evidence at that point in time that this is SARS either. There is no good diagnostic test. And they got better, that's the end of the issue.

Dr. Rose said that concerns of staff were heard:

Question:	But there are those who would say their concerns about the [Patient A] family were ignored. Do you agree with that? Disagree with that?

Dr. Rose: I think the concerns were heard. The actions in retrospect were not. What were the best decisions? So you can listen to people, hear what they have to say, balance that with other information from other experts, then you make the decision. You do listen to them. You may not make the decision that they want you to make, but you do listen to it. I actually think that we handed you a copy of an email from [the nurse manager] from the emergency department following the first May 20th visit that was one of the first ones, who is actually pretty reassuring that she felt staff were heard. I will tell you I was personally out of the hospital on May 20th. I was [out of town] that night. Knowing that this was a problem, I was available. I came back to the hospital on the 21st. I actually took [a family member] to the emergency department on the 21st because he fell and cut his foot or something, and I was in the emergency for two or three hours waiting with [the family member]. I did not hear concerns expressed. I was there. I was available.

One physician, who was involved in the Patient A case, said that the problem was that the disease was so new and that no one knew how serious it was. He said he did not sense a huge disconnect between front-line staff and hospital administrators; rather, no one knew for certain what these cases were. He said:

Question: Some people have suggested and some of the doctors have suggested that one of the lessons from SARS is that there seemed to be a disconnect, if you will, between what the front-line doctors were seeing and some of the decisions that were being made. They said that that was a lesson learned from SARS?

Answer: I think it is difficult to say. It is a brand-new disease, so to speak. We never had that before, with no experience and we don't know how serious this illness is, potentially. So, again I think it comes down to human nature, how serious it is. I don't know. I don't have a strong sense of disconnect between administration and front-line workers.

The Commission accepts the evidence of senior hospital officials that they were not unwilling to listen to front-line doctors and that they sincerely believed that there were communication lines that were open between front-line staff and senior-level officials.

But the importance of strong systems of communication from those on the front lines to senior officials and those in charge of decision making about the SARS response cannot be overemphasized. It is not enough to hope that a physician will risk censure or ridicule should he or she raise an alarm. It is not enough to hope that a physician who goes to work, does his or her job, cares for patients and focuses on that will step outside that role to involve himself or herself in higher-level decisions. It is not enough to hope that colleagues will second-guess or raise concerns about decisions by other colleagues. Particularly in a case like SARS, where no one knew for certain if their opinion was right, it is not difficult to imagine that front-line physicians who had concerns, whether minor or great, would feel reluctant to voice them. Even Dr. Mederski, in her role as the infectious disease specialist in the hospital, did not have that level of comfort in the face of what she perceived to be a consensus among experts and in the face of previous criticism from outside experts that she could not diagnose SARS cases on the basis of clinical judgment alone.

SARS taught us that with a new disease, no one can claim to have all the answers. It is hard to say that someone is an "expert" on a disease that has been around for two months. There are no right and wrong opinions, and the perspective of those on the front lines must be brought to the table. They must be sought out, they must be encouraged to be voiced, and there must be no fear of consequences for speaking out. The dialogue must be open and free from fear of ridicule and censure.

Communicating with Front-Line Staff

In a case like SARS, a new disease with no quick, reliable diagnostic test, it is understandable that opinions may differ between front-line physicians. An emergency room physician thinking a patient had SARS while the infectious disease specialist thinks the patient did not is not an unusual event.

The problem was not so much that the opinions provided to staff that these patients were not SARS turned out in hindsight to be wrong or that there wasn't a consensus of opinions among physicians. The problem was that no one could give an absolute opinion about SARS: without a reliable test to prove SARS or not SARS with any degree of certainty, one physician's opinion could not completely rule out another. In other words, there was no correct opinion; there were only differing opinions.

With a new disease, it is not unrealistic to think that the experts will not have all the answers. The problem is that no one acknowledged this uncertainty. No one acknowledged to staff that no one really knew anything for certain about SARS. No one acknowledged the possibility that staff concerns might be right. Even if hospital officials, those in charge of the SARS response, and Dr. Mederski did not feel it appropriate to voice their uncertainty in the public domain, the message to staff that these cases were not SARS, that SARS was over, displayed a confidence that no one could have. Without a quick, reliable test that could rule out SARS, no one could rule it out with any certainty. And in the face of concerns by front-line staff, among them nurses and doctors who had seen more than their share of SARS cases, the opinion that these patients were not SARS could not be put forward with any certainty or confidence.

Without acknowledgment of the possibility that staff concerns may be right, that no one had all the answers to SARS, that no one could rule out a case with any certainty in such a short period of time, many staff felt betrayed and angry when it turned out that the assurances to staff were, as we now know, false.

Not only did the emergency department staff know something was wrong, but word spread to other parts of the hospital. Staff outside emergency began to hear rumours about what was happening, adding to the level of fear, anxiety and mistrust in the hospital. As one nurse who worked on the SARS unit told the Commission:

> I had heard rumours that there was problem. And that emerg nurse came up and brought me a patient one day, and she was isolated or whatever and she said, well, that's just the very beginning, because she said, the same people keep coming back and they're sicker each time.

Of those who did hear about the cluster of patients, many wondered why they weren't being told anything about these cases. Even though the psychiatric patients were not called SARS, staff were still told about them through the minutes and updates to staff. But there is no mention of the family cluster in the minutes of the SARS Management Committee, nor was there an update to staff about them.

As one nurse said:

> I'm hoping that they've really learned this and I'm hoping they've really learned also that it is much, much more of a loss to the economy to have

> to close a whole hospital than just being up front with the staff in the hospital and saying this is what we're dealing with, this is the line that is going out to the press, but we want you to know so you can protect yourself and protect the public and we want you to keep it quiet. It would have been far better, it would not have been such an insult to our intelligence. It would not have had the bad impact it's had on the nursing profession, on our feelings towards the profession. We're at a state now where we're pretty well desperate for staff already and it's going to get worse. 60 to 70 per cent of the nursing staff is aging staff. Within the next 10 years they're all going to be gone, and how are we going to attract young people to a profession that thought that we were so stupid we would follow that kind of party line. How can we recommend a profession to them where people are treated pretty well like, as far as I was concerned we were treated like disposable cannon fodder.

It is a lesson that North York General seems to have learned post-SARS. After the second outbreak, communication with staff changed to include a category of cases identified as "CRO": "can't rule out" SARS. To many staff, this signalled a major improvement and was a positive change post-SARS. As one North York General emergency department nurse told the Commission:

> The big thing that's changed since then is, then you didn't have SARS until it was absolutely proven that you had SARS. Now it's, you've got SARS until we absolutely know you don't. And that's the one big, good thing that's come out of this.

The Commission finds no evidence that hospital officials, including those in charge of the SARS response, deliberately withheld information about the patients who were coming through the emergency department in May or that they lied about these patients. The Commission accepts that hospital officials sincerely believed that these cases were not a concern to public health officials and that they repeated that to front-line staff.

The Commission does find, however, that in conveying these messages and in communicating with staff, hospital officials, including those in charge of the SARS response, conveyed a confidence that we now know was misplaced. The Commission finds that the communication with staff, although well intended, was ineffective and failed to acknowledge legitimate concerns on the part of front-line staff, but rather dismissed them in the face of what was believed to be the opinion of outside experts.

Caution and Leadership in the Emergency Department

As noted earlier, precautions in the emergency department at North York General Hospital began to relax on May 16, 2003. This was consistent with provincial directives.

But the staff in the emergency department, uneasy about the admission through the emergency department of a number of patients who had a previous association with the hospital, such as the Patient A family cluster and Mr. O and his wife, were cautious about following hospital notices that advised them they no longer had to wear precautions at all times.

Front-line staff were told, on the one hand, that it was safe to remove protective equipment, that there were no new cases of SARS. On the other hand, they kept seeing patients coming in the emergency department, like the Patient A family cluster, whom they knew front-line physicians, whose opinions they respected and trusted, thought had SARS. They also saw these front-line physicians continuing to wear full personal protective equipment at all times. As one physician told the Commission, there were mixed messages that left some unsure how to proceed:

> Later in May when we received recommendation that Code orange was being dropped ... we were told that we no longer needed to wear personal protective equipment and there was a big discussion, a lot of anxiety in the emerg regarding the decision to remove our personal protective equipment and we weren't sure what to do. There were differing opinions from different sources. There were faxes coming on an ongoing basis from the OMA, from the Ministry, we would read one thing and, the descriptions of what steps to take in personal protection were not always the same from the different agencies. We weren't even getting the same instruction from our infection disease people in our own hospital.
>
> The one infectious disease consultant, Dr. Mederski, was telling us, take off your masks and don't worry, and I remember going up to Barb [Dr. Mederski], I think it was right after the long weekend and we had a cluster of five from the 19th to the 20th, and I said, Barb, tell me that I don't need to wear my mask and tell me why. And Barb went into this

> whole dissertation about why it is not SARS and there is no epidemiologic link.
>
> And then I go into the department to work and there is another doctor, who is our part-time infectious disease consultant, completely covered in a gown, mask and goggles … there were nurses going back and forth deciding whether to wear it or not, I was deciding whether to wear it or not. Our two internists that worked in the emerg most of the time in those days were both walking around with masks and goggles on and here I am without my mask going, why am I listening to the hospital who's telling us to remove our masks?

Another emergency room physician described the varying use of equipment and said that he and other emergency room physicians encouraged staff to continue to use personal protective equipment because they were not convinced SARS was over:

> It was a completely ludicrous sight. I'd be up on the 4th [floor] because I'd get called to put out a little medical fire here, I'd go up fully dressed, [another physician] if she was around, she was also fully dressed and we'd be on a ward, we'd have nurses walking around us completely in regular nursing uniforms and we'd be almost like Martians, completely out of context on these wards. And I spent a lot of time preaching to the ER nurses, where I spend most of my time and maybe on one or two occasions on the 4th floor, saying, I'm not convinced that this thing is over, I've admitted a few patients in the last few days, does it hurt to continue wearing this stuff for a few more days until we see where it goes?
>
> Virtually nobody on the orthopedics floor heeded what I said. A lot of nurses in emerg did heed what I and [the other physician] said. They saw a lot of us frequently down there, in fact that's where we spend most of our shifts when we work and in fact several of the nurses continued to wear full uniform as long as they kept seeing us wearing full uniform. I'd say maybe two or three nurses on any shift were not protected, but something like seven or eight, the balance of the team, were always fully protected.

Another physician who consulted in the emergency department said that he continued to wear protective equipment throughout May, because he was paranoid that SARS was not over:

> I suppose when SARS I kind of hit, so that's the outbreak at Scarborough Grace, everyone is suddenly very excited and very worried and what is it, how do we get this illness or what can we do to avoid having the illness? And I think for some time we were very vigilant about it, you know. Before seeing any patient, we would have gowned and gloved and washed our hands, before and after and things like that. And I suppose when that period was gone, around April or the first part of May, people kind of said, "okay so that's great, no more new cases, don't get too excited about it." I think that's the kind of general feeling I see in North York General Hospital, and I was the one who was kind of the paranoid, and I have been wearing an N95 mask even when I am not in patient care areas. And people sometimes joke about it, they laugh at me and say you don't want to be choked to death and suffocated, but I don't care, I just do my own stuff.

This physician said that he never had problems getting equipment and that he didn't recall a time when he wanted equipment and could not get it. When he was asked if he ever felt any pressure to remove the equipment, he said:

> No, absolutely not. In fact, let's say that Dr. Baron made it clear that it was your own personal choice. Even if the directive comes out that now you can stop wearing the mask and if you choose to do it, be my guest, just do it, whatever you are comfortable with.

Although precautions were relaxed, emergency room staff were cautious and followed protocol guidelines to use protective equipment with all cases of respiratory illness. As noted above, some of the staff and physicians continued to wear equipment at all times.

One emergency room physician said that the fact that SARS wasn't spread in the emergency department before May 23 was a testament to staff's adherence to good infection control procedures and policies that were in place in the emergency department. He credited the leadership of Dr. Rutledge and other hospital executives for ensuring that the emergency department was as safe as possible:

Question:	One of the interesting things is that it doesn't look as if anyone in emergency, physicians, nurses, others, got SARS after the relaxation of the precautions. Yet people in the rest of the hospital got it. Why did no one in emergency get it?

Answer: The patients who came into the hospital who may have transmitted SARS, in spite of exceptions to the rule, generally speaking had respiratory symptoms or fever. In spite of the existence of exceptions, we immediately put them in isolation as Tim [Dr. Rutledge] had ordered. We wore masks, full outfits, gloves, and washed our hands. I'm very upset and concerned about the nurses, but don't get the belief that the emergency department wasn't extremely carefully educated, that would be a false belief. Actually apart from what I pointed out, you know, that I wasn't thrilled about, apart from that, everything else was superb. The tabletops were cleaned all the time, we were taught time and time again not to take our fingers and touch our mouths and so forth.

What happened on the 4th floor was a little different. There was a patient who was a super-spreader. We know these viruses are found on tabletops in the hall, and all you have to do is touch a virus and touch your hands to your mouth a few times and you increase your likelihood of getting a disease. We didn't do that in emerg. The hand washing, the scrupulous cleaning of tabletops, the administration was really very careful about making sure we followed the intelligent practices of communicable diseases …

Question: And to whom do you attribute that good leadership?

Answer: Oh, [Dr.] Tim Rutledge was great. Also Dr. Keith Rose and the hospital execs … Those people with whom I didn't totally agree on a couple of items, on most items I agreed with totally. I have worked at [other hospitals] and I can tell you that the engineering, and the training, and the attention to all the details was absolutely superb, absolutely superb.

Another emergency room physician said that staff were diligent and strictly followed protocols. This physician said that it was a team effort, not only by nurses and doctors.

He described the important role that a woman from environmental services had as part of that team effort:

> I was aware of it being an individual choice on my part but most people, when I say "most people," nursing staff, were quite consistent that way. And I referred to it earlier, the emergency department in the time in March and into April, there were certain doors that were not the normal access point into the emergency department but patients used to be moved out through those doors on beds going to diagnostic imaging. But in fact they held to the protocols very strictly, but there was a woman who was in housekeeping, environmental services, who took it upon herself, she was wonderful that way, it didn't matter who you were, if anybody tried to use that door or deviated from what the protocol was, and she always made sure the supplies were stored, clean, adequate, separated. And she'd be standing there and, it was never an issue in my circumstance, but there were some people that needed to have some direction as to, I mean from time to time, but she was probably the most effective form of maintaining accountability and enforceability of what the protocols were and she was there – the approach she took was tremendous. It's that sort of an individual that can make the substantial difference. I think the nursing staff were aware that the protocols were in place for very good reasons and followed that.

This physician said that the nurses were also very diligent about ensuring that procedures and precautions were followed by visitors:

> The nurses in the emergency were very consistent. There would be times where patients, if they were in a cubicle, any time in May, if you went into the emergency department, there would patients who, if they said, well, you should have a mask on, the patient says, but I don't like this, and they take it off, but they [staff] would insist. They were very consistent.

And, importantly, front-line staff in the emergency department reported that they had the support of their nurse managers. As one nurse told the Commission:

> Our manager was very vocal in saying that, they were talking about the isolation and the idea of isolation and the idea of only certain nurses wearing the garb. Because eventually they got beat down a little bit and

> they said, fine, you can wear your garb, okay, we get it. But maybe only certain nurses can wear it in this certain section and then these other nurses can stay in the other section. And our manager was saying, you don't understand the way the emergency department works, it doesn't work that way. You've got nurses in and out of everywhere. If a group of nurses here are going to wear it then everybody's going to wear it, if you think that it might be necessary and so it's going to be all-or-nothing sort of thing down here.

Another nurse described the unique position of the emergency room staff in the hospital and how that position affected their insistence on wearing protective equipment:

> Emergency nurses and physicians have a little more of a relationship so we kind of spearheaded amongst ourselves. We're a pretty strong group down there. I don't think anybody would have told us to take it off and you have to push very hard to get us to take it off.

Fortunately, because of their refusal to remove their protective equipment and because of their adherence to strict isolation precautions, the emergency room staff and the emergency room physicians who admitted the Patient A family cluster members in May did not contract SARS. Had they been less firm in their belief in precautions or less confident in their own professional instincts, it seems likely that SARS would have spread within the emergency department, infecting not only staff but other patients and visitors. The hospital and the community owe a debt of gratitude to the skill and dedication of these individuals who held their own and refused to believe what they were being told by hospital authorities. They personify the wisdom of the precautionary principle. And it is a testament to the leadership in the emergency department that the emergency room at North York General had an environment where intelligent, able health workers were able to think on their feet and make effective decisions to protect themselves, patients and visitors.

By May 20, 2003, staff in the emergency department at North York General were concerned that SARS was still around and that there were patients admitted to the hospital for whom SARS could not be ruled out. The same day that staff were meeting with Dr. Berall and Dr. Mederski to express concerns about these cases and to discuss the relaxation of precautions, St. John's Rehabilitation Hospital was reporting to Public Health that they had a cluster of respiratory illness among four patients and a health worker. In the days that followed, as the St. Johns' Rehab cluster was investigated, the trail began to lead back to North York General Hospital. Emergency room staff would learn on May 23 that they were right: SARS had never left.

The Outbreak at St. John's Rehabilitation Hospital

On May 20, 2003, St. John's Rehabilitation Hospital reported a respiratory outbreak among four patients and a health worker. The report and subsequent investigation led to the discovery of the second phase of SARS. When the report was made, no one involved with these cases or with the investigation into them had any idea of what was to come. No one knew that these cases were linked to a large outbreak of undetected SARS at North York General Hospital. No one knew that a second phase of SARS, equally devastating as the first, was waiting to be found.

The story of the outbreak at St. John's Rehab Hospital is a story of both tragedy and triumph. Tragedy, because we now know that the cluster of illness among patients at St. John's Rehabilitation Hospital traced back to a much larger, deadly outbreak at North York General Hospital, infecting patients, visitors and health workers, and spreading to other health care institutions. Tragedy, because three of the patients from St. John's were transferred to other health care institutions for treatment before it was known they had SARS, and at two of those institutions there was further spread of SARS. And tragedy for all those who became ill, especially for those who lost loved ones to the second phase of SARS.

The triumph, however, can be seen in the quick investigation and the collaborative effort of public health, hospitals and infectious disease and medical microbiology experts, which ultimately contained the outbreak at St. John's Rehab Hospital and led to the discovery of the outbreak at North York General Hospital. And triumph in the stories of strong medical leadership, strong infection control, strong occupational health and safety and strong communication on the part of St. John's Rehabilitation Hospital and Rouge Valley Health Centre, which prevented further spread of SARS.

But the story of the outbreak and its investigation also reveals a number of systemic problems, many already identified in the Commission's first interim report, including ineffective systems of communication between public health, hospitals and front-line health workers, a lack of central expertise, lack of public health resources and lack of lab support.

A Cluster of Respiratory Illness

St. John's Rehab Hospital, located at 285 Cummer Avenue in Toronto, is a leading hospital for specialized rehabilitation. The hospital has 160 inpatient beds, serving 2,600 patients annually from across the Province, as well as providing more than 47,000 outpatient visits per year, as part of a comprehensive outpatient rehabilitation program.[743]

After SARS, St. John's Hospital became a haven of support, both physically and emotionally, for health workers recovering from SARS. Through a program called "All Systems Go," St. John's Rehab partnered with the Workplace Safety and Insurance Board to provide post-SARS rehabilitation. It was the only program of its kind. Countless health workers interviewed by the Commission credited the hospital with helping them in their struggle to recover from the long-term impacts of SARS, including post-traumatic stress and chronic pain. Post-SARS, when hospitals returned to normal, many health workers felt abandoned in their illness and pain. St. John's Rehab Hospital was there for them. As one nurse told the Commission:

> I wish to tell you one thing, St. John's hospital, the staff, the physios, the doctors, they have been there more for us than the hospital where I worked for 30 years.

On May 20, 2003, Dr. John Patcai, the medical director at St. John's Rehab Hospital, reported to Toronto Public Health a cluster of respiratory illness involving four patients and a health worker. The ill were three men and two women, ranging from 43 years of age to 68 years of age, each with a unique health history. Their common link was St. John's Rehabilitation Hospital and the onset of fever. A chronology of SARS II, prepared by Toronto Public Health, summarized the case history of these five cases:

> [Mr. S],[744] a 43-year-old male, was transferred to St. John's Rehab from Sunnybrook Hospital on May 9, 2003, following a laminectomy. He had developed fever on May 16 and fatigue on May 18. A portable chest x-ray on May 20, showed a right lower lobe pneumonia. While an inpatient

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[743] Numbers taken from St. John's Rehab Hospital website.

[744] As with other parts of this report, patients referred to in this section have been randomly assigned a letter for reference, to protect their identity.

at St. John's Rehab Hospital, he was treated by health worker Ms. J prior to his onset of illness, and he was also a roommate of Mr. T.

[Mr. T],[745] a 57-year-old male, was transferred to St. John's Rehab Hospital from Toronto General Hospital on March 19, 2003, following a double lung transplantation operation. His symptoms began on May 16 with a low-grade fever. On May 18, while he was at home on a weekend pass, he developed incontinence, weakness, tremors, jaundice and shortness of breath. He was taken to the emergency room at Toronto General Hospital but was returned to St. John's Rehab Hospital that evening. On May 20, he again developed a fever and complained of nausea, chills and cough, and was transferred back to Toronto General Hospital. While he was an inpatient at St. John's Rehab, he was a roommate of Mr. S and Mr. G and he had contact with health worker Ms. J.

[Mr. G], a 68-year-old male, was hospitalized at St. John's Rehabilitation Hospital on March 20, following a stroke. Mr. G's symptoms began on May 11, 2003 with fever. He was admitted to Scarborough Grace Hospital on May 13, with a diagnosis of fever of unknown origin. On May 20, he was diagnosed with congestive heart failure at Scarborough Grace Hospital. While an inpatient at St. John's Rehab Hospital, he was a roommate of Mr. S and Mr. T and was also treated by health worker Ms. J.

[Ms. N], a 55-year-old female, who turned out to be the index SARS case at St. John's Rehab Hospital, was admitted to St. John's from North York General on April 28, 2003, following a bilateral total knee replacement. On May 1, she developed fever and diarrhea. On May 6, she developed a cough. On May 9, she was transferred to North York General and seen in the emergency department, where she was diagnosed on a chest x-ray with pneumonia. She was returned to St. John's Rehab Hospital the same day. Her fever resolved on May 11, and on May 16, she was discharged home, where she remained well. She was called at home by St. John's Rehab Hospital on May 20, While an inpatient at St. John's Hospital, she had contact with health worker Ms. J.

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[745] As noted earlier, the initials of patients have been changed. This Mr. T is not related or connected to the index case, Mr. T, whose story is told earlier in connection wit the outbreak at Scarborough Grace Hospital and the first phase of SARS.

> [Ms. J] was a health worker at St. John's Rehabilitation Hospital. She complained of fever and fatigue starting on May 7 or 8, 2003. She was off work on May 8 and returned to work May 9 for one day only. She was then admitted to Scarborough Centenary Hospital with pneumonia, diagnosed on a chest x-ray. She had contact with all four above-listed patients while they were inpatients at St. John's Rehab Hospital.

The reporting of the cluster of illness at St. John's Rehab Hospital was a key step in the detection of the second phase of SARS. The actions of Dr. Patcai and the hospital reflected a keen understanding of not only their reporting obligations with respect to respiratory outbreaks[746] but also the importance of heightened vigilance for any unusual clusters of illness. It is a strong example of what went right during SARS and it sets an example for future conduct. Without the actions of those involved in identifying and reporting the outbreak at St. John's Rehab Hospital, it is very likely that the second outbreak would have simmered much longer, spreading even further, before it was detected. As Dr. Rita Shahin, a Toronto Public Health physician, said, in giving credit to Dr. Patcai:

> I have to credit the astuteness of the medical director at St. John's Rehab for realizing what he was dealing with. He had no training in infectious disease. He is not a specialist. He was very astute. He picked up on that unusual respiratory outbreak on his own and called it in to Toronto Public Health and that really was the first step in uncovering in the facility the second phase of the outbreak.

Not only did Dr. Patcai report the outbreak, he provided in-depth information to Toronto Public Health about the patients and also reported the case of Ms. N, who was no longer in hospital but was at home, having recovered from her illness. Dr. Tamara Wallington, from Toronto Public Health, told the Commission that the reports to Toronto Public Health, such as those made by the wife of Patient A, the man who died as an inpatient on 4 West at North York General and whose family became ill in May, and the report by Dr. Patcai, were important events in identifying the second outbreak:

> So I spoke with Dr. Patcai on the 21st and he told me about four patients and a health care worker, and I'll just go through the brief history he gave

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[746] *Health Protection and Promotion Act*, R.S.O. 1990, c.H.7., s.27; and see Ontario Regulation 559/91, amended to O.Reg., 365/06, Specification of Reportable Diseases.

> me on each one. And again, I think that this, for me personally was another really interesting turn of events. When I think of [Patient A's] family, the fact that they were never reported to us and that we probably wouldn't have known about them if they hadn't called in, it is to me pretty amazing. I'm so appreciative of the fact that she [Patient A's wife] called in.[747]
>
> Something similar happened with Dr. Patcai when he phoned to tell us about this outbreak, because he ended up telling us about a patient who had been admitted to St. John's who was actually already at home and well. And just to give you the context around how outbreaks are reported, usually when facilities call in, a long-term care facility calls in to report a respiratory or even a GI [gastrointestinal] outbreak, they will tell you about the patients who are on the line list. So they'll take people who have the various signs and symptoms and they'll put them on what we call a line list, they'll document their names and that will include dates of onset, etc., and tests that have been ordered. They don't generally tell you about people who were sick a week ago and are now better, and he did that. He took that initiative and it turned out to be a very key person and that was [Ms. N]. And he didn't have to tell us about her and it's pretty amazing that he did …

Dr. Patcai reviewed the health history of Ms. N with Dr. Wallington, including the fact that she had initially been an inpatient at North York General, that she had been seen in the emergency department at North York General Hospital and diagnosed with pneumonia during her stay at St. John's Rehab Hospital, and that she had been discharged home from St. John's Rehab and was doing well. Dr. Wallington credited Dr. Patcai's judgment in reporting the information and said that Ms. N's case was one of the turning points in the outbreak investigation, as it linked back to North York General:

> She [Ms. N] was the first case and she was one of the turning points for us. If he had not told us about her, we would not have had the link back to North York, which turned out to be very significant. So, again, it was a very good judgment call on his part because you don't always hear about patients who were sick and then are better. So it was really excellent that he did that.

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[747] Patient A was a patient on 4 West, the orthopedic unit at North York General Hospital. He was the patriarch of the NYGH family cluster, admitted to North York General Hospital through the emergency department in May 2003. Their story is told earlier in this report.

St. John's Hospital had not only reported the outbreak and provided helpful details about the patients, those who were in hospital and Ms. N, who had since been discharged home, but they had also managed to contain the outbreak within the hospital. The containment of the outbreak at St. John's Rehabilitation Hospital was due to the hospital's strong approach to worker safety and its robust infection control policies. As one official from the hospital told the Commission:

> The one saving grace is that any patient that comes into St. John's and has an elevated temp is put into isolation, and that had been even more strongly reinforced during SARS I, and so when SARS II happened after we'd done the critical incident review through SARS I, anybody that came in was on an automatic 48 hours' isolation, so we don't have any negative pressure rooms but we do have the ability to isolate.

Much like the experience at Vancouver General Hospital, whose story is told earlier in this report, the front-line staff at St. John's Hospital were used to being suspicious and cautious when confronted with a patient with fever or other respiratory symptoms and they understood the importance of isolation and the use of precautions. One official from St. John's Rehabilitation Hospital praised the staff for their strict compliance with precautions, preventing further spread of the outbreak:

> … the right thing was that the staff were isolating the right patients and were doing the right thing in terms of their own personal protection, because when the patients were cohorted, you know, isolated, there wasn't any further transmission …

The Naylor Report described the quick and cautious actions of St. John's Rehabilitation Hospital:

> Meanwhile, St. John's Rehabilitation Hospital had a steady flow of patients from other institutions, including a transfer from 4 West at North York General Hospital. During the third week of May, staff at St. John's informed senior management that three patients were exhibiting SARS-like symptoms, and a call went out to Toronto Public Health. The hospital immediately instituted all the appropriate precautions.[748]

With the support of strong medical leadership under Dr. Patcai and a strong working relationship between management and front-line staff, St. John's Rehab Hospital proved that strong systems, strong leadership and good communication will stand even in the face of crisis and change. As one hospital official told the Commission, even a change in leadership immediately before SARS did not impact the hospital's ability to respond:

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[748] Naylor Report, p. 40.

> … the other thing that happened between SARS I and SARS II is that St. John's had no management team. Malcolm Moffat [the CEO] was hired a month before, just before SARS I. He closed the hospital on his third day of work … So Mary Grace [Grossi] and some of the other folks really stepped up to be leaders during that. Mary Grace has been there for 20 years so she really knows the organization and I think really galvanized the staff to get them rallied around that first one [the first SARS], because certainly people were. There were very good systems in place that we got up and running for the second time around.

The identification and containment of the outbreak by St. John's Rehab Hospital is even more impressive when one considers that it did not have its own infectious disease specialist and did not have the infection control resources available at some of the large health care institutions in Toronto. St. John's, like many other small institutions in Toronto and across Ontario, had to rely on the help of outside experts for consultation and advice.

Around the same time the report was made to public health, Dr. Patcai, concerned about this outbreak, had also contacted Dr. Allison McGeer, the Director of Infection Control for Mount Sinai Hospital. On the advice of Dr. McGeer, and in consultation with the clinicians who were caring for these patients, a number of lab tests were ordered on the patients who had been transferred from St. John's Rehab Hospital to acute care hospitals, including testing for SARS coronavirus.

Toronto Public Health Responds

The May 20, 2003, report from St. John's Hospital about the cluster of respiratory illness was forwarded by the Toronto Public Health investigator who took the report to a public health physician for review. The physician, who was not on the SARS team at Toronto Public Health but rather was responsible for non-SARS outbreak reports, was concerned by what she was told, and reported it to the SARS team. Dr. Shahin explained how the report came to her attention as a member of the Toronto Public Health SARS team:

> Late on May 20th, the medical director had called the west office of Toronto Public Health and spoke to one of the investigators about a respiratory outbreak that he was concerned about. She gathered more information from him. He sent her an email with some summaries of the number of cases and patients he was concerned about. And the next morning she spoke to [Dr.] Megan Ward, who was the physician dealing with everything that was non-SARS at Toronto Public Health, and Megan was concerned about the outbreak. It didn't sound like a typical respiratory outbreak, so she was trying to reach the SARS reporting line, the Toronto Public Health line, and wasn't able to get through, so she called me directly, knowing that I was at 277 Victoria.

The astute actions of Dr. Ward meant that alarms were being raised in a timely way, and with the right people.

Also on May 21, 2003, Dr. Barbara Yaffe, the Director of Communicable Disease Control for Toronto Public Health, became aware of the cluster of illness at St. John's Rehab Hospital while at a meeting of the Naylor Commission. She told the Commission that Dr. McGeer approached her at the meeting and raised concerns about St. John's:

> I personally became aware of it May 21st, I was actually at the first meeting of the Naylor Commission, on Sheela's [Dr. Basrur's] behalf, and [Dr.] Allison McGeer was there too, and during a break she said to me that she had been called by St. John's, and she was concerned about it. So we went through together what was going on there, and I called the office right away, and I said transfer this St. John's situation to our SARS team and I asked [Dr.] Rita Shahin to take the role as one of the senior physicians to lead the investigation.

As noted above, on May 21, Dr. Wallington spoke to Dr. Patcai and gathered information from him about the four patients and the ill health worker. The various hospitals where these patients were now being treated were contacted by Toronto Public Health to review the cases with the front-line clinicians. She said that at that time, while it was clear that they were dealing with an outbreak of some kind, it was not clear that it was SARS. None of the patients had an epilink to a known SARS case, all had a possible alternative diagnosis and not all of their symptoms were clinically compatible with SARS. Dr. Wallington described the cluster of illness:

> It was a clustering of individuals that had fever. Some, three of them had chest x-ray findings, so there was definitely something happening in the lungs but they didn't all complain of respiratory symptoms.

On May 22, 2003, there were a number of conference calls throughout the day involving Toronto Public Health, the Ministry of Health and Long-Term Care, the Provincial Operations Centre and a number of infectious disease experts and physicians from across Toronto.

It was clear that a number of other hospitals would be affected if these cases turned out to be SARS. The four patients[749] had come from three different health care institutions in Toronto:

- Two patients had come from Sunnybrook Hospital;
- One patient had come from Toronto General Hospital; and
- One patient had come from North York General Hospital.

And as of May 21, the day the investigation started, three of the patients and the health worker had all been transferred out of St. John's Rehab Hospital to other hospitals in Toronto, where they were receiving medical care:

- As of May 21, Mr. G was at Scarborough General Hospital, having been admitted on May 13, 2003;
- Mr. T was at Toronto General Hospital, having been admitted on May 20, and also having been to the emergency department on May 18, 2003;
- Mr. S was admitted to Sunnybrook Hospital on May 20, 2003; and
- The health worker, Ms. J, was at Scarborough Centenary Hospital, having been admitted on May 16, 2003.

Also on May 22, 2003, staff from Toronto Public Health went to St. John's Rehabilitation Hospital for a meeting of the outbreak management team. The Naylor Report described the events of that day:

> Toronto Public Health staff visited the hospital on May 22. Discussion again focused primarily on establishing an epidemiologic link to the patients. None was found.[750]

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[749] There were five people who were under investigation for SARS: four patients and one health care worker.

[750] Naylor Report, p. 40.

Although the patients were being managed with SARS precautions, the absence of an epilink prevented health officials from classifying the case as SARS. As the Naylor Report found:

> Still chasing down 30 to 40 possible cases of SARS per day, personnel at Toronto Public Health agreed by telephone that there was a respiratory outbreak, but suggested that SARS was not a likely culprit – as at North York General Hospital, no epidemiologic link could be established.[751]

The patients were categorized as persons under investigation, in accordance with the case definition at that time. Public Health understood that the cases were being managed in isolation, with precautions, as if they were SARS. Public Health was investigating the cases and looking for possible epilinks.

Smells Like SARS

Ms. J, the health worker from St. John's, had been admitted via the emergency department, to Scarborough Centenary Hospital, part of the Rouge Valley Health System, on May 16, 2003. Prior to her admission, she had seen two family physicians, and she recalled that both had used precautions.[752] The cautious use of protective equipment by physicians and health workers likely prevented the spread of SARS within those clinics to patients or staff.

Because Rouge Valley Hospital had not dropped precautions in the period between what are now considered SARS I and II, when Ms. J went to the emergency department on May 16, precautions were taken from the moment she walked in the door. Protective equipment was used both by her and by staff who assessed and provided care to her. Ms. J recalled to the Commission that she was given a mask before she entered the emergency department, and that her husband was not permitted to accompany her. While she waited in the emergency department, a nurse took her temperature. Her temperature had gone up and she was put in isolation. As she described to the Commission:

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[751] Naylor Report, p. 40.

[752] Ms. J went to her family doctor on May 14, 2003. She recalled that he wore a mask when he examined her. She went to a walk-in clinic near Scarborough Centenary Hospital on May 16, 2003. The physician who saw her at the clinic also wore a mask and directed her to go to the emergency department at Scarborough Centenary Hospital.

> I don't remember how long I was sitting there but finally somebody came and they took my temperature. Actually it went up a little bit so the nurse put me in isolation because I had a fever. I guess to be sure they had to be put in isolation if somebody had a fever at the time. This is what was explained to me. And I was put in an isolation room, I think it was negative pressure, I haven't been in isolation before. And then the doctor came, he was one of the emergency doctors. He assessed me and he said, I don't know what's wrong with you, it seems like I cannot find anything. So I didn't have stroke, I didn't have headache, actually, my head was quite clear. And I was still complaining about a lot of pain. I was asking them to give me some Tylenol or something. It was difficult for me to sit or lying on the side, anything, any side, especially my right was very, very bad. And again, he was in this mask and he looked at me and said, I really can't find anything wrong with you but we will try to see the blood work, and somebody came and took my blood.
>
> And after, I don't know what time it was, but after they came to me dressed and double-masked and they said that I have viral hepatitis and they don't know if I really have it or not, this is what I was told. And they ordered x-rays and blood work. So they eventually came with again, double gowns and masks, I was actually in the room, and the x-rays. It took a while because I guess they had to find a mask and everything. It wasn't just N95s anymore, it was like they were wearing full gowns. And even the doctor who came the second time I actually had my blood done, she was double-gowned too and double-masked at the time.

Also on May 20, 2003, Mr. S's mother, Mrs. S, was admitted to Scarborough Centenary Hospital with respiratory symptoms. She had visited her son on May 11, while he was an inpatient at St. John's Rehab Hospital. She began to develop fever, headache and myalgias on May 14, 2003. When she was admitted to Rouge Valley Hospital on May 20, 2003, Mrs. S was not known to have SARS. When she went to the emergency department, she was asked about recent travel history and reported that she had recently travelled to China. As a result, she was admitted into a negative pressure isolation room and emergency room staff used precautions. The clinician who saw her was concerned about her condition and reported her case to Dr. Ian Kitai, the medical director for infectious diseases at Rouge Valley Health Centre. Although Rouge Valley was unaware of her connection to St. John's Rehab Hospital, they reported her case as a respiratory illness to Toronto Public Health.

Despite the hospital's not being aware that Ms. J and Mrs. S had SARS, the precautions used and infection control measures taken at the Rouge Valley Hospital with these two patients meant that there was no further spread of SARS to other patients, visitors or staff. Rouge Valley Health System treated 28 probable and 21 suspect cases during SARS. They had no evidence of transmission to health workers, patients or visitors in the hospital.[753] Dr. Kitai described the hospital's success as a "team success" and said that everyone, including administrators, senior management and front-line staff, was part of the team effort.

The cautious approach taken by Rouge Valley Health System was rooted in strong infection control and occupational health and safety, both essential to safeguarding patients and staff in a health care institution. Measures such as using their Joint Health and Safety Committee to ensure compliance with precautions and to provide education and reinforcement of policies, fostering and maintaining an open and strong relationship between front-line staff and the decision makers in the hospital, and respecting and valuing the opinions of front-line staff were hallmarks of an environment that promoted both patient and worker safety. Dr. Kitai described his infection control philosophy as follows:

> If you are not sure, you act with the greatest of caution to maximize and protect health care providers.

Dr. Kitai was a leader, not only during SARS but also during the legionnaires' outbreak in 2005. His approach and outspokenness during both outbreaks showed strong medical leadership, rooted in an understanding and application of the precautionary principle, that action to reduce risk need not await scientific certainty.

The hospital's strong approach to infection control, a worker safety culture, communication and systems based on the precautionary approach were also hallmarks of the response of Vancouver General Hospital, a hospital that contained SARS when it arrived in the emergency department on March 7, 2003. The story of SARS at Vancouver General Hospital is told earlier in this report.

The infection control team and front-line staff at Scarborough Centenary Hospital were in constant communication with Dr. Kitai. When they expressed concerns, he listened. When they alerted him to the case of Ms. J, he shared their concerns. Here was a health worker who was young and otherwise healthy and who was suddenly very ill to the point of almost requiring ventilation, and who worked at St. John's Rehab, a hospital that took cases from acute care hospitals in Toronto that had SARS patients. Despite the absence of an epilink, Dr. Kitai was very concerned about her case and felt that it "smelled like SARS." Even before the hospital became aware of concerns at St. John's Hospital, they reported the case of Ms. J, to Toronto Public Health, unaware of the connection.[754] When Dr. Kitai heard about the cluster of ill patients at St. John's Rehab Hospital, he repeatedly phoned Toronto Public Health to express his concerns.

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[753] SARS Commission Public Hearings, October 1, 2003.

During one call to Toronto Public Health, on May 22, 2003, Dr. Kitai spoke to Dr. Barbara Yaffe, and expressed his frustration as to why these patients, in particular the health worker being treated at his hospital, were not being called SARS. Dr. Yaffe's notes of the conversation with Dr. Kitai provide:

> Physio – smells like SARS – screw the orders re PUI
> The epilink will come
> Look at NYGH – had 2 psych pts
> St. John's Rehab Hosp ? adjacent to NYGH
> Get virology
> Recording everything I'm saying to everybody
> So what if you're wrong – regard as SARS until prove otherwise – isolate, quar.
> Nzes [short for "consequences"] of ignoring it + saying it's not SARS …

Dr. Yaffe was asked by the Commission to explain what her notes meant:

> Question: But then he's got noted, get something … ology?
>
> Dr. Yaffe: Virology.
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> Question: Got virology.
>
> Dr. Yaffe: Virology.
>
> Question: Virology, recording everything I am saying to everybody.

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[754] According to TPH records, Ms. J's case was reported by Rouge Valley Hospital on May 16, 2003.

Dr. Yaffe: That is him telling me that.

Question: That's him telling you that. So he is recording everything he is saying to everybody, so what if you are wrong, regard as SARS until proven otherwise.

Dr. Yaffe: Isolate and quarantine.

Question: Isolate and quarantine.

Dr. Yaffe: Risks of ignoring it and saying it's not SARS, he is basically saying if you are in doubt, call it SARS, which is what we're doing.

Question: Now go back to the top, though. He is saying screw the orders re: PUI.

Dr. Yaffe: Yes, I don't know what he's talking about, I don't know what he meant by that. I don't know. I didn't write down what I said to him, but I would have explained to him that PUIs [persons under investigation], we do treat them as is if they have SARS and isolate them and quarantine the contacts, but I just wrote down what he was saying to me.

Question: I am interpreting this and I may be quite wrong, but he's phoning up saying, screw the orders re: PUI, so call it SARS, so what if you are wrong?

Dr. Yaffe: Yes.

Question: Call it SARS until proven otherwise and the risks of ignoring it. It sounds like he is saying something to you at that point in time that strikes me as a layperson as just about bang on. So it is, screw the orders re: PUI [persons under investigation], were there orders about?

Dr Yaffe: No, there were no orders.

Question: … and call it SARS.

Dr. Yaffe:	You know, I think it has to do with how people interpret PUI. To me somebody, as I explained before, PUI did not mean they didn't have SARS.
Question:	Right.
Dr. Yaffe:	It just meant they didn't meet the case definition.
Question:	At that time.
Dr. Yaffe:	Yes, but we were treating as if they did.

Dr. Kitai's words resonate today.

The fact that a patient did not meet the formal classification of a suspect or probable case in a system designed to meet reporting requirements within Ontario and Canada and internationally, did not mean they did not have SARS and it did not mandate anyone to say SARS was gone or that cases were not SARS when it could not be ruled out. "Person under investigation" included a patient who clinically appeared to have SARS but for whom an epilink could not be found. But as we know from the story of the ill health workers from North York General Hospital in April, of the ill psychiatric patients and of the Patient A family cluster, because an epilink could not be identified did not mean one didn't exist, and its absence could not rule out SARS. Time and time again, the problem was that the classification of "person under investigation" did not reflect the reality that the patients "could be SARS" if and when an epilink turned up.

There were strong concerns among front-line clinicians involved with these cases that they could be SARS. And while the case definition did not change how these patients were managed, the identification of new cases of SARS, as suspect SARS until proven otherwise, as opposed to as persons under investigation until proven to be suspect or probable, would have signalled to front-line staff that SARS might be back. The identification of suspicion of new SARS cases would likely have resulted in greater vigilance for additional cases across Toronto and to a reinstatement of many of the precautions that helped contain the early cases of SARS. As will be seen below, at those hospitals not involved in this discussion about the St. John's cluster, front-line staff worked without protection, under the false belief that SARS was gone.

The problem was not that Public Health did not understand the meaning of "persons under investigation"; it was that others didn't. And the strict case definition, seemingly premised on the belief that the absence of an epilink meant not SARS, did not account for the risk that there would be cases for which no epilink could be found, possibly ever. The classification system, based on this strict case definition, did not accurately reflect the potential risk of a new case that looked like SARS and smelled like SARS but for classification reasons could not be called SARS.

It is important to point out that Public Health did not create the case definition. They were operating with a definition that they were required to use. But SARS showed us that in any future outbreaks, there must be complete clarity around case definitions: what do they mean to public health, what do they mean to the provincial government and what should they mean to the rest of the community, especially health care institutions that must take steps to ensure the safety of staff, visitors and patients.

SARS Is Back

May 22, 2003, was a key date in the identification of the second outbreak. Although the cases from St. John's were being investigated, it was still not known if they were SARS or some other outbreak. But on May 22, 2003, as further information about the patients was learned, the pieces came together that made it clear to everyone that SARS was back.

Toronto Public Health identified four things that became apparent on May 22, 2003, and that solidified to them that this was SARS:

> i) results on the broncho-alveolar lavage for [Mr. T] was positive for SARS associated coronavirus;
>
> ii) the condition of the ill health worker from St. John's Rehab [Ms. J] had worsened significantly. She is being transferred to the ICU;
>
> iii) the mother of [Mr. S] fell ill with SARS-like symptoms three days following her visit to him on May 11, 2003; and
>
> iv) the index case, [Ms. N], had been transferred from the orthopedic floor at North York General Hospital to St. John's Rehabilitation Hospital. She had a mild course of illness and had already recovered and was at home. [Ms. N] was [later] linked to 4W where Patient A was a patient and Patient A's wife [the A family cluster][755] visited regularly.[756]

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755. The story of the Patient A family cluster is told earlier in this report.
756. Toronto Public Health Chronology, SARS II.

Dr. Shahin described for the Commission how these pieces of information came together on May 22, 2003:

> We had I think three pieces of information that came together at the same time. One was the test results on [Mr. T], the other was [Mrs. S] who was [Mr. S's] mother, and [Mrs. S] had gone to China about a month before the onset of her illness, so when she became ill, what everyone was focusing on was her travel and the fact that it had been so far out of the normal incubation period that it didn't fit the picture. What we didn't know about was that she had a son at St. John's Rehab and she visited him on May 11th. That piece of information only came together after we were doing the outbreak investigation for St. John's Rehab. And then the third piece that came a little bit later was [Ms. N], who was the patient at St. John's Rehab that had been transferred from North York General and turned out to be the source of the outbreak at St. John's. So as we were investigating St. John's Rehab, we were looking at all the patients and where they had come from because they had all been transferred from acute care facilities.

Dr. Yaffe agreed that on the afternoon of May 22, things fell into place. During a conference call with experts and with officials from the Ministry of Health and Long-Term Care, it was determined that SARS was back and that the public had to be notified and St. John's Rehab Hospital had to be closed. As Dr. Yaffe told the Commission:

> You know that day, May 22nd, it was quite a day. Things started to kind of fall in place very quickly in the afternoon. I had a call that there was a positive PCR on the broncho-alveolar lavage from one of the patients who had been transferred from St. John's to Toronto General. We made a connection finally between, there was a woman called Mrs. S, and her son was at St. John's and we didn't realize, she hadn't named him as a contact. And she had travelled to China or Hong Kong but the time period didn't fit, so we were not sure what was going on with her, and they all of a sudden realized she had visited her son who now was ill, so then we started to make the connection with the physiotherapist, Ms. N, who had been transferred from North York [Hospital].
>
> And meantime, all of a sudden it was all coalescing, as all this happened. So then I spoke to the Ministry, I spoke to [Dr.] Erica Bontovic at the ministry, and we said well we need to do a case review of all this right

> away. And then in the middle of all of this, [Dr.] Ian Kitai called me. And then we had a case conference with a lot of people on the phone. I called the Ministry and asked for the, what now they are calling the adjudication, I asked for the ID [infectious diseases] physician on call to consult on a difficult situation, it was Dr. Kevin Goff, and got him on the line, and I got the Ministry, and St. John's, and different sections of the ministry, Public Health, and we went through systematically all the different pieces of the whole thing, and based on that, and I was appointed again, the Acting Medical Officer of Health because Sheela [Dr. Basrur] was away, I said okay, SARS is back …

Late that evening of Thursday, May 22, at approximately 9:30 p.m., Toronto Public Health held a press conference, where they announced to the public the outbreak at St. John's Rehabilitation Hospital. The press release issued about the St. John's outbreak identified four cases under investigation for SARS. The fifth case, Ms. N, was not identified because she was no longer in hospital and had recovered from her illness, although she was considered a case at that time. The press release provided:

> News SARS cases under investigation
>
> Toronto, May 22/CNW/ – Four individuals are currently under investigation for SARS. These patients are all being treated in hospital, and full precautionary measures are in place.
>
> As a result of possible exposure to SARS, Toronto Public Health is asking all individuals who were in St. John's Rehabilitation Hospital between May 9 and May 20 to isolate themselves at home and call Toronto Public Health at [number provided] Friday morning starting at 9 a.m.
>
> These individuals should monitor their temperature, and watch for the following signs and symptoms of SARS: sudden onset of fever (greater than 38 degrees C or 100.4 degrees F), AND respiratory symptoms, including cough, shortness of breath, or difficulty breathing.
>
> Staying at home and limiting your exposure to others is the best way to control the spread of SARS to family, friends, and coworkers.
>
> Anyone in isolation must take the following precautions:
> - Do not leave your house, and do not have anyone visit you at home.

> - Family members do not have to be quarantined, unless a member of the household is diagnosed with SARS.
> - Wear a mask when you are in the same room with another member of your household. Change your mask twice a day. Family members do not have to wear a mask.
> - Do not share personal items, such as towels, drinking cups, or cutlery.
> - Wash your hands frequently.
> - Sleep in separate rooms.
>
> St. John's Rehabilitation Hospital is closed to admissions, visitors, discharges and transfers.[757]

By this time it was clear that there was a connection between the SARS outbreak at St. John's Rehab Hospital and a number of hospitals. While the precise details of the connection may not have been clear, those involved in the investigation knew that all of the patients involved had come from other institutions, and all but one had gone back into hospital since being at St. John's Rehab Hospital.

As noted above, Ms. N was believed to be the index case of the outbreak at St. John's. Although she had since recovered from her illness and was no longer in hospital, she had come to St. John's from North York General Hospital. Also at this time, public health officials were worried about the cluster of illness among Patient A's family, a North York General Hospital case they had been monitoring since May 12, 2003. They were worried that Patient A's family might have SARS, and this, combined with what they were learning about Ms. N, led them back to North York General. Dr. Wallington described the concerns about Ms. N and Patient A and his wife, in the context of what was also learned about Mr. S and his mother and the tests results for Mr. T:

> So on the 22nd, things started to come together. [Mr. T's] PCR [polymerase chain reaction] came back positive for SARS. [Ms. N], who was the first case at St. John's, had been a patient at NYGH, where a patient [Patient A], who we had heard about anecdotally, had died, and his family was sick. She [Ms. N] was the first person to be sick in the cluster at St. John's. She was therefore the source case for St. John's. Where was she before that? Where did she get it? She was at North York General Hospital where Patient A had died and his family was sick.

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[757] Toronto Public Health press release, May 22, 2003.

> There was a third piece of information that Dr. Lisa Berger may be able to speak to regarding Mrs. S, who was the mother of Mr. S. I wasn't directly involved in her case, but I believe she also developed SARS. She had gone to China a month before, came home and put herself into a 30-day quarantine. She then visited her son at St. John's, got sick and died. Although she had been to China, she acquired SARS as a visitor at St. John's. That was the third piece of information that came to us on May 22nd.

That evening, Thursday, May 22, 2003, after the press conference that announced the St. John's Rehab outbreak, a decision was made to go to North York General to review case files. As Dr. Wallington told the Commission:

> At about 11 o'clock I said to Barbara [Dr. Yaffe], I think we need to go to North York [General Hospital]. Somebody needs to go to the hospital and review her chart [Ms. N], and review the charts of her hospital roommates. We need to review the medical charts because there is something going on at North York General Hospital. She [Ms. N.] is the index case at St. John's [Rehab Hospital]. She had been transferred to St. John's from the hospital where [Patient A] died [NYGH], we didn't have any information on him. I felt we needed to go to North York and start looking at charts to get a better understanding of what was going on. And she [Dr. Yaffe] agreed. Lisa [Dr. Berger] and I would go. Allison [Dr. McGeer] and Don [Dr. Low] were standing there. I turned to Don and asked him if he would come with us to review charts. We were at 277 Victoria, at the office. They were there at the time of the press conference.

Protecting North York General Hospital Staff

The investigation into the St. John's outbreak was reported to Public Health officials on Tuesday, May 20, 2003, and commenced on Wednesday, May 21, 2003. North York General was advised of their possible connection late Thursday, May 22, 2003. When meetings and conference calls were taking place on May 22, North York General was not on the line, despite the fact that one of the patients under investigation had come from their hospital.

Dr. Glen Berall, co-chair of the North York General Hospital SARS Task Force, recalled learning on May 22, that Public Health wanted to come on site the following day to review patient charts, and recalled that it wasn't until May 23 that everything fell into place:

Dr. Berall: On the 22nd, I was aware that they were coming to look into any possible connection to St. John's and they wanted to go over some charts. So I thought, okay, well, if there's something that I need to facilitate, I should be there. So I was at that meeting.

Question: But you'd never had to do that before when they came in.

Dr. Berall: No.

Question: So was there already sort of a signal that it may have been a bit unusual?

Dr. Berall: I sent an email to Sue Kwolek on the night of the 22nd saying, do we have any patients from St. John's? Because I wanted to make sure that she and I both looked into that the next day. And then we had that meeting and it was being covered. I became aware of that meeting anyway and that was my total email to Sue Kwolek, was exactly that line and nothing else. It just said that. And so we then had that meeting. And at the meeting, as the meeting progressed, it took us until late in the afternoon to put the entire picture together with all of that expertise around the table. And as the day progressed, it became more and more obvious to us that there was a problem right there at North York General Hospital. That's when I became aware of it and apparently, that's when Toronto Public Health and [Dr.] Donald Low became aware of it, or certain of it. They had gone to St. John's Rehab, I gather, the day before and therefore they were coming to North York General the next day. And that's my understanding of how that proceeded. So when did they became aware they needed to come to North York General for these things? It was on the 22nd. They arranged to come the next day and we saw them.

Dr. Keith Rose told the Commission that he had no idea prior to May 23 that Public Health was looking at a possible SARS connection to North York General. He said:

> I had no idea. We know that our patient went to St. John's. That was a fairly common source of referral for an orthopedic patient and it was an absolute surprise to me on May the 23rd that there was a link, the link was to 4 West. Understanding the patient that transmitted it now and seeing the Health Canada report, understanding who it was and how it got there, I can see all that now. At that time, I had no idea. But I will say I was surprised that if there was a postulate that North York was involved, that we were only notified on May the 23rd.

Toronto Public Health staff and physicians were working very hard to investigate the outbreak. It is apparent that a lot happened on May 22, and the story that now seems so clear was not so neat and clear at the time. As Dr. Wallington said to the Commission as she was reviewing the story of the outbreak at St. John's Rehab Hospital:

> So this all sounds neatly packaged, but it's all in retrospect. I need to give you that caveat.

It is also clear that Toronto Public Health officials and government officials had no idea that an outbreak such as they discovered on May 23, 2003, was spreading through the hospital. When they went there on May 23, they intended to review only the charts of Ms. N, her roommate and Patient A. They did not know that there was a large outbreak among patients, staff and visitors on 4 West.

Dr. Berall, the co-chair of the SARS Task Force, said that everyone, including Toronto Public Health, came to the meeting on May 23, 2003, without any idea of the role that North York General had in the St. John's outbreak:

> I think they started to suspect it when they went to St. John's and looked at the key patient who had come from North York General to St. John's and then came to North York General because of that suspicion and then the dawning awareness happened during that meeting. The way I look at the meeting is that it was a period of time during which our jaws sequentially dropped over time, and that's everybody around the table. It wasn't like, I didn't at all have the impression that Public Health, Health Canada and Donald Low came thinking, aha, we've got it and, you know, you guys don't know but this is what we think. But rather, they

> were wondering and looked because of the St. John's connection. So I don't think that it would have fallen into place earlier because there wouldn't have been the link.

On May 22, 2003, there were suspicions that there were at least two undetected cases of SARS associated with North York General Hospital: Ms. N and Patient A. It was believed that Ms. N was the index case of the outbreak at St. John's Rehabilitation Hospital, and suspicions that the cluster of St. John's patients did have SARS were confirmed. Toronto Public Health staff told the Commission that it was not until they began to review charts on site on Friday, May 23, that they realized that Ms. N had been on the same unit as Patient A.

As seen time and time again throughout the outbreak, minutes, hours and days made a difference. Health workers could not protect themselves if they did not know they were at risk. Any delay in identifying the outbreak on 4 West and reinstituting precautions put nurses, doctors and other health workers at risk of exposure. For example, one nurse was exposed to SARS when she came to work on May 22, ironically to cover a shift on 4 West for a nurse who was off sick. The nurse who covered her shift recalled bathing a very ill elderly patient on the orthopedic floor. Even though precautions had been relaxed on the unit, she recalled that she decided to wear a mask, but the only mask she could find was a surgical mask. The patient was one of the 4 West patients who was later identified as having SARS. This nurse contracted SARS and began to experience symptoms on May 26. Her story shows how every moment counts when it comes to protecting workers and the importance of protecting workers at the earlier signs of risk.

The Commission finds no evidence to suggest that public health officials deliberately kept information from North York General or that they had any knowledge of the risk faced by staff, patients and visitors to 4 West. The Commission accepts that prior to May 23 Toronto Public Health officials did not know that both Ms. N and Patient A were linked to the same area of the hospital: 4 West. Public Health did not know that 4 West staff were working, unprotected, with patients who had SARS. They did not know what was happening at North York General Hospital and in no way could have predicted what they would find when they went to the hospital on May 23, 2003. Public Health officials did not have the knowledge that we have today about what was happening on the 4th floor at North York General.

There was at the time no protocol that required North York General Hospital to be notified of the investigation into St. John's Rehab, nor does the Commission suggest there was a lapse in existing standards. But there lacked a policy and clarity around reporting of potential infectious disease outbreaks by Public Health to potentially affected health care institutions. North York General and staff were not clearly notified of the potential link to the St. John's outbreak at the earliest possible opportunity. While Public Health officials did not know before May 23 that Ms. N was an inpatient on 4 West, the same unit where Patient A died, had North York General been told of the investigation at St. John's Rehab from the outset, and that a former patient was under investigation as part of the cluster, the hospital might have identified the link earlier than May 23. Had it been able to identify the link earlier, the hospital might have communicated to staff the fact that two patients connected to 4 West were under investigation for possible SARS and reinstituted precautions until the risk could be ruled out.

As noted by the Commission in its first interim report, the obligation to report potential public health hazards is a two-way obligation: the hospital must report to public health, but public health must also report risks to hospitals. They should not wait until a risk has been fully investigated or crystallized, but should err on the side of disclosure. Nor should the ability of a hospital to be kept informed of risks in the community depend on their being part of the inner circle of experts who are consulted for advice by public health or Ministry officials. As we saw time and time again, hospitals cannot protect themselves if they do not know the risk they face, and in a health system such as Ontario's, where a patient can travel between multiple health facilities in a single day,[758] diseases can quickly spread beyond what is thought at the time to be the source. Public health must have policies that support and allow the sharing of information with health care institutions and must have clear legal powers to disclose personal health information to hospitals or any other institution that might be at risk, where necessary to protect the public, which of course includes patients, visitors and health workers within those institutions.

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[758] For example, in the story detailed below under "Communication Breakdown," we see a patient come from St. John's Rehab Hospital, through North York General emergency, to Scarborough Grace Hospital, on the same day.

Communication Breakdown

Although the diagnosis of SARS was not confirmed until May 22, 2003, with the report of the positive results for Mr. T, five patients from St. John's were identified on May 20, 2003, as under investigation for SARS and the investigation was commenced on May 21, 2003.

Those hospitals that were lucky enough to be in the loop as the cases were discussed and conference calls were held, were in a position where they could ensure that their front-line staff, especially their emergency departments, knew about what was happening and were on the alert for respiratory cases from St. John's Rehab Hospital. North York was not one of those hospitals.

Those physicians and staff working in the emergency department at North York General the night of May 22, 2003, did not know about the investigation into a cluster of illness at St. John's Rehab Hospital or the identification of those cases as SARS. As far as they knew, there had been no new cases of SARS since early April. SARS was over.

That evening, they received a patient from St. John's Rehab Hospital who was quite ill. Unaware of the developments at St. John's, physicians and staff intubated the patient in the emergency department without using protective equipment. The doctor who intubated the patient told the Commission that he first saw this patient around 8:00 or 9:00 p.m. He said that when he performed the intubation, he had no idea anything was wrong at St. John's Rehab Hospital:

> What happened was I saw her and we were [not] concerned given, at that point, we had been told, or led to believe, or it was suggested strongly that SARS no longer was a problem in Toronto. Right? We had no information about St. John's, and it happened at that hospital that day. And we had been told she had decreasing levels of consciousness for reasons unknown. She had no fever as well.

Because the intensive care unit was full, a not uncommon event in hospitals across the Greater Toronto Area, the patient was then transferred to Scarborough Grace Hospital. Nursing staff from Scarborough Grace inquired whether there were any concerns that the patient might have SARS. North York General reassured them that the patient did not have SARS. The physician who gave this assurance had no idea that cases of SARS had been identified earlier that day at St. John's Rehab Hospital.

He had no reason to suspect this patient might have SARS and he understood that there were no cases of SARS in Toronto. As he said:

> On May 22nd, I knew there was no SARS in Toronto. That's what I had been told by some pretty reliable sources. North York General, [Dr.] Barbara Mederski, [Dr.] Glen Berall, the administration, Province of Ontario, Government of Canada sort of got together on that. I'm not sure about the WHO though.

Later that night, one of the physicians on duty in the emergency department at North York General Hospital received a telephone call from a very angry physician at Scarborough Grace Hospital. The front-line staff at North York General still had no idea about the outbreak at St. John's Rehab Hospital:

> … I got a call from Scarborough Grace; a physician from there, he was actually I think the internist on duty that night, asked for me. I came on the line and this guy started yelling and screaming at me. He said, what are you guys doing, you know you just transferred a patient with SARS to us … I said, excuse me, what patient with SARS, we transferred one from St. John's. He said, don't you guys know anything, haven't you been listening to the radio? And I said, no, I work in the middle of emergency; when am I going to listen to the radio? He said, it's all over the news, there's an outbreak in St. John's.
>
> When he said that, no more goosebumps, just a big hot feeling went down my back, because the first thing I knew was, [the doctor who intubated the patient] is dead, [the doctor] is going to die. In fact I was really very, very, very upset. [The doctor] is a very good friend of mine. I phoned [the doctor] right away. I said before you hear it on the news, let me tell you what's happening, and I told him there is an outbreak, we don't know who's involved, which patients, this patient may or may not be involved, but we don't know, but I'll keep him posted.

The physician involved in the intubation recalled receiving that telephone call described above, in the early morning hours while he was at home:

> I went home about one o'clock in the morning and the patient was intubated and [the above-quoted doctor] was looking after her. So I got a call about 3:00 a.m. on May the 23rd from [the above-quoted doctor]. He wanted to know if I was sitting or standing, well, I'd better sit down

> again. He said, that patient you looked at from St. John's, St. John's has closed their hospital, they've got some SARS suspects in the hospital. I sent the patient to Scarborough Grace. They just got a call from St. John's saying the patient may have SARS. Doctors at Scarborough Grace were not exactly thrilled about that.

One emergency room physician at North York General described the communication around the St. John's outbreak as "a total breakdown":

> I think there is a total breakdown and it shouldn't have happened. If St. John's knew in the morning that they may have SARS cases, and they did the appropriate thing, and that was to call Public Health to investigate by midday, at that point they, of course they had to transfer out a critically ill patient, but why was nobody told in our department when they have sent this patient, that they are the place that may have SARS. And this lady was in the next room to where these cases were found, the next room or on the same floor, whatever, but there was a connection there. And this is why I bring this up, the communication had to improve. Public Health should have just taken control of the situation and said while they were investigating, even though we are not willing to go to the media and say it's St. John's because they hadn't released that information yet, they should have forewarned two hospitals when they were sending these patients out, or at least warn us and then we would have forewarned Scarborough. If she was SARS, God forbid, what would have happened.

Dr. Rutledge, the Chief of the Emergency Department, received a call at 3:00 a.m. on Thursday, May 22, 2003, advising him of the intubation and transfer of the St. John's patient, a hospital where emergency department staff had just learned there was SARS. He told that Commission that at that time he said that the emergency department was to reinstitute the use of personal protective equipment:

> As it turned out, that patient did not have SARS but that second, on that conversation, I told everybody, back in PPE. I went back into the hospital early the next day and that was the day our hospital was basically shut down. We basically went into full PPE in the emergency department thinking that we've got SARS back again.

Although it later turned out this patient did not have SARS, the point is, what if she had? Had this patient turned out to have SARS, the failure to notify staff of the events developing outside North York General would have had profound implications, not just for North York General but also for Scarborough Grace Hospital.

Toronto Public Health told the Commission that an email was sent out the night of May 22, 2003, to emergency room physicians and infectious disease specialists to advise them to be on the alert for patients and health workers from St. John's Rehabilitation Hospital. As Dr. Shahin told the Commission:

> It was a general email that went out, so much like the earlier ones that Dr. Henry had sent out to the emergency room physicians and infectious diseases specialists, saying that we have a cluster of cases of SARS associated with St. John's Rehab, and it was really to alert them to the fact that if they had any patients that had been through St. John's or any staff, that they could probably have SARS, possibly, if they have any other symptoms.

The email was sent on May 23, 2003, at 2:28 a.m. from Dr. McGeer to a number of physicians and infectious disease experts in Toronto, including Dr. Tim Rutledge, the Chief of the Emergency Department at North York General. The email provided the following information:

> 5 cases (1 HCW [health care worker], four patients, one visitor) from St. John's Rehab facility in Toronto with clinical illness compatible with SARS.
>
> No clear epi link (one possible link to a hospital with cases, but at least from current knowledge would require invoking something awful like airborne spread; potential travel link, but is visitor who travelled; her onset was 23 days post-return and one patient and HCW ill first, so not likely).
>
> However, BAL on one patient is coronavirus pos [positive] (SARS by restriction), repeat tests pending. Coronavirus testing on two others so far negative (but no stool results as yet). Other investigations – no pathogen to date.
>
> Not probable cases because of lack of epi link, but we are behaving as if SARS.
>
> The status of the patients is home recovering (1), hospitalized (5 – 2 Centenary, 1 TGH [Toronto General Hospital], 1 SBK [Sunnybrook]. At

> all three hospitals, patients were managed in isolation for nearly all their hospital stay, so there are a few staff quarantined, but no major disruption. St. John's is closed – they have very few private rooms and no facility for acute care, so will need to transfer out most of their febrile patients.[759]

These attempts at communication with front-line staff, although well intended, were not timely and did not work. The conference call that confirmed SARS at St. John's Rehab Hospital took place the afternoon of May 22, 2003, almost 12 hours before the email from Dr. McGeer was sent. The news conference was at approximately 9:30 p.m. Shortly after the news conference, at approximately 11:00 p.m., a decision was made to go to North York General to review files. For those working the front lines that night, such as the physicians and nurses in the emergency room at North York General, an email to the Chief of Staff in the middle of the night was of no assistance. Emails and news releases all depend on someone's having the time to see these alerts and read them. In the busy, chaotic environment of an emergency department like North York General, the doctors and nurses were too busy saving lives to sit and check their email or watch television or listen to the radio. And both notifications came too late, as the patient from St. John's Rehab had already been transferred and intubated around the time the press conference occurred and long before the email was sent.

There was no system in place to ensure that front-line physicians throughout Toronto were on the alert for possible cases of SARS, as they should have been, as soon as it was suspected that SARS was at St. John's Rehabilitation. Although SARS wasn't proven until May 22, 2003, between May 21 and May 22, 2003, there were five people under investigation for an outbreak of some kind. Whatever these five people had, it was a cluster of illness, and they had been in a number of health care institutions. Their contacts could be numerous. While the investigation was taking place and experts discussed the possibility of a SARS outbreak among patients at St. John's Rehab Hospital, staff at North York General, the hospital from which the index case of the outbreak came, continued to work unprotected, unaware of the risk they faced.

Even if the link to North York General had not been crystallized or even identified, even if suspicions that these patients were SARS were not confirmed until the afternoon of May 22, 2003, there was no system to ensure that front-line physicians were put on alert, as they should have been, at the earliest sign that SARS might be back, whether or not anyone knew where it came from or where it was, whether or not tests results had confirmed that it was SARS.

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[759] Dr. Allison McGeer, email to a number of GTA physicians [names not listed in this reference], dated May 23, 2003, 2:28 a.m., RE: SARS Update.

The communication failure was not the fault of Dr. McGeer or any of the outside experts who provided advice during this investigation. It wasn't their responsibility to alert front-line staff across the Greater Toronto Area. The problem was that Ontario and public health officials still did not have an effective means to communicate quickly with front-line staff across Ontario's hospitals. The same weak communication systems that existed in March, that failed to alert all front-line physicians and health workers about concerns about atypical pneumonia cases arising out of China, also failed to alert front-line staff in May 2003 that SARS was back.

Dr. Yaffe, the Director of Infectious Diseases at Toronto Public Health, candidly acknowledged that communication did not always work, as they lacked the resources to keep up with the volume of work and the systems to communicate quickly with the health sector stakeholders:

> The third thing I think that went wrong is communication, and I said it went well, but parts of it didn't go well, and I think our ability to communicate quickly with all the stakeholders in the health sector was stymied really, particularly with physicians, as we discussed before. Our ability to communicate, even internally, was difficult because we were just so busy, so much volume of work, and information was just coming flying at us, sometimes we would be saying things on the press conference before our hotline staff hear it, which is terrible, right? So they hear it on the news and so that is something we are working hard at looking at how to correct that.

Knowledgeable, alert and vigilant front-line health workers, especially those working in the emergency departments, were the strongest ally in the fight against SARS. They could not protect themselves, or others, if they did not know there was a risk. Their notification cannot be left to emails, radio, television or faxes. In the busy chaos of an emergency department, they need to be informed promptly and clearly so they can take immediate steps to protect themselves and other patients and so they can be on alert for new cases to come through their doors or for cases already in the hospitals.

The Commission finds that the failure to notify front-line physicians, first, of the investigation into possible SARS at St. John's Rehabilitation Hospital and, second, of the confirmation of SARS at St. John's was a major communication breakdown. The Commission finds that the communication with front-line staff was neither effective nor timely. No adverse finding arises against public health or hospitals because there was at the time no standards or system to ensure timely communication. The Commission recommends the institution of such systems and standards.

Post-SARS, individual health units, like Toronto Public Health, continue to struggle with their ability to quickly communicate with front-line physicians and health providers. The local public health agencies must have the resources and support necessary to allow them to protect the public. It is quite simple: they cannot protect the public without quick and effective access to front-line health providers.

Lack of Centralized Expertise and Support

The story of St. John's Rehab Hospital also underscores the importance of ensuring that there is a clear system of support for smaller hospitals and health care facilities. Few hospitals in Ontario have the resources or the depth of expertise of the major teaching hospitals in our large urban centres. It was fortunate that Dr. Patcai could consult with outside experts such as Dr. McGeer, and that so many experts, like Dr. McGeer, were so generous with their time and knowledge and always answered a call for help.

The problem in Ontario was that the Ontario public health system lacked the critical mass of professional expertise one would expect in a crucial branch of government in a province the size of Ontario. Hospitals such as St. John's Rehab had to turn to experts from other hospitals through their own networks and professional contacts because there was no central agency that could provide the same level of knowledge and expertise. As the Commission found in its first interim report:

> SARS demonstrated that our most valuable public health resources are human resources and that Ontario lacked a critical mass of expertise at the provincial level. It is crucial to the success of any public health reform initiatives in Ontario that there be a high level of expertise at both the local and central levels of public health. Ontario cannot continue to rely on the goodwill and volunteerism of others to protect us during an outbreak ...[760]

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[760] SARS Commission, first interim report, p. 83. An action plan released by Health Minister George Smitherman in 2004 said:

> An Agency Implementation Task Force is being struck to provide technical advice on the development and implementation of the Agency. Together with the advice of international and national experts, the Ministry will establish the Agency by 2006/07. (Source: Ministry of Health and Long-Term Care, *Operation Health Protection: An Action Plan to Prevent Threats to our Health and to Promote a Healthy Ontario*, June 22, 2004, p. 23)

The Final Report of the Agency Implementation Task Force, titled *From Vision to Action: A Plan for the Ontario Agency for Health Protection and Promotion*, was released in March 2006.

One official from St. John's Rehabilitation credited Dr. McGeer for providing advice and help when needed:

> … it goes back to saying what we don't have onsite. We sent patients out, but our ability to even do diagnostics just aren't there and [Dr.] John Patcai, who's our Chief of Staff, he's a physiatrist, he sort of acted as our infection control physician. As Chief of Staff he's the chair of the infection control committee and at that point we didn't have an on-site infection control practitioner either. So we didn't have a lot of resources available and John [Dr. Patcai] was able to talk to Dr. Allison McGeer, which was a lifesaver in many ways because she was very, very helpful, but we had no formal links to any kind of infectious disease help …

Another expert whose assistance proved invaluable was Dr. Raymond Tellier. Dr. Tellier, a microbiologist and senior associate scientist at the Hospital for Sick Children in Toronto, had been working on a diagnostic test for the SARS coronavirus. It was Dr. Tellier's test that rapidly identified the results on the bronchoalveolar lavage for Mr. T as positive for SARS-associated coronavirus. The positive test result on May 22, 2003, was a key piece of information that signalled that the St. John's cases were SARS.

Because the provincial lab lacked the expertise and capacity to meaningfully participate in the struggle to contain SARS, scientists at hospitals such as Mount Sinai, Sunnybrook and the Hospital for Sick Children worked tirelessly to fill the void left by a starved, ineffective provincial lab system. As the SARS Commission found in its first interim report, the central lab capacity must be revitalized and strengthened:

> The capacity of a laboratory system to respond to an outbreak of infectious disease must pre-exist any future outbreak because it is impossible to create it during an outbreak. The functions performed by public health laboratories require the work of highly skilled professionals. This work cannot be done by recruiting inexperienced volunteers during an emergency. Nor is it adequate to rely on the hope that the private and hospital laboratories will have the extra capacity when needed. Laboratory capacity is like the rest of public health; its importance is not appreciated, nor the impact of its inadequacies felt, until there is an outbreak and then it is too late.[761]

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761. SARS Commission, first interim report, p. 96.

A hospital as small as St. John's cannot reasonably be expected to sustain an infectious disease specialist, medical microbiologist, epidemiologist or occupational hygienist. During an infectious disease outbreak such as SARS, they will have to depend on outside help. The ability of a hospital to obtain advice or to get access to a newly developed diagnostic test should not depend on knowing the right person or on the goodwill of busy experts who, during a large-scale outbreak, may not have the time to provide support outside their own facility.

Health care institutions, whether they are big or small, urban or rural, acute care, rehab hospitals or long-term care facilities, must have access to a central body of expertise to which they can turn for help. As the SARS Commission found in its first interim report:

> Examples abound of centres of excellence for disease control: British Columbia, Quebec, and Atlanta, among others. Ontario needs to learn from their example. Without a critical mass of the right professionals public health reform, no matter how well-reasoned and well-resourced, has no chance of success.[762]

A central body of expertise is important to provide support on many levels. The St. John's story also underscores the frailty of public health resources. Public health resources were stretched to the maximum. They had enormous responsibilities, including understanding the outbreak from an epidemiological perspective; investigating, monitoring and reporting SARS cases; identifying SARS contacts and ensuring they were quarantined and monitored; and fielding questions from the public, hospitals and other health care providers, businesses and other organizations, both private and public, who needed advice about SARS. Twenty-hour workdays were not uncommon for the medical staff at Toronto Public Health.

But health care facilities like St. John's, which did not have the same depth of expertise or resources as the larger hospitals, needed help. The absence of a centralized support agency and the lack of capacity within public health to fulfill that role with the limited resources available to them became evident at St. John's Hospital when the second outbreak hit. When SARS II hit, they needed on-the-ground assistance, and they had nowhere to turn to get it. Public Health was swamped; the Ministry of Health Public Health Branch lacked the capacity and depth of expertise to provide on-the-ground support; and infectious disease physicians, infection control practitioners and occupational health and safety professionals were needed within their own institutions. There was no agency or organized response system in place by which operational and on-the-ground support could be provided and maintained, wherever it was needed. As one official from St. John's told the Commission:

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[762] SARS Commission, first interim report, p. 83.

> … Toronto Public Health, they were trying to get information, but what we also wanted was assistance and so we were giving a lot of information but we weren't getting much assistance. And again, I think that they were very stretched. So if there was some kind of a central registry to say these people need help, can you go and help them out. Particularly when we didn't at that time and still only have limited resources available to us onsite. It's different for [a major teaching hospital], which has got six infection control practitioners and a couple of infectious disease docs and a fairly large occupational health and safety group, they've got some internal resources that they can bring to bear that we just don't have.

As the focus shifted to North York General and the size of the outbreak grew daily, St. John's Rehab Hospital found itself working hard to contain the outbreak in its institution without much outside support. As one St. John's official told the Commission:

> … the difference between St. John's in the first round and the second round was that, in the first round that was probably all right, the kind of resources that we had and who we were able to get in touch with, but for the second round, because we were sort of an epicentre of a cohort, it would have been nice to have had the resources onsite. A recommendation that we would have liked to put forward was that somehow there's a central agency that has the resources that they can deploy to the organizations that need them that don't have them on a regular basis. We can't sustain having an infectious disease physician or a fleet of infection control practitioners, but if there'd been one available it would have been a great help to have someone come in because in fact John [Dr. Patcai] was very good at sleuthing through, but he's just not an epidemiologist or trained to look for things like that.

It is unrealistic, unsustainable and unsafe to expect the limited expertise available in the private sector, whether it is in infectious diseases, epidemiology, infection control or occupational health, to stretch to fill the gaps in the public health system. The province cannot fight an infectious disease outbreak by hoping that a doctor, scientist or expert might be able to work 21 hours instead of 20. By the end of April 2003 those involved in the fight to contain SARS were overworked and exhausted. SARS was identified and contained in less than five months. What if it had been longer? This province cannot expect tired, overworked, mentally exhausted people to fill the voids in the public health system. In many ways we asked too much of our experts who pitched in to help, at either the provincial or local level, and of those public health staff who also worked tirelessly during SARS. But we had to, because the institutional capacity that existed in public health, at both the local and the provincial level, including the laboratories, was simply not capable of managing the outbreak, and someone had to.

The burden of responding on behalf of the largest province in Canada cannot be placed on outside experts, some of whom may not have the time or the desire when the next infectious disease outbreak hits to fill the voids in the public health system that the government has failed to address – voids that were glaringly obvious during SARS and that have been identified by a succession of reports and investigations post-SARS.[763]

The importance of a central agency with the expertise and resources to provide support during an infectious disease outbreak was one of the key aspects of the successful containment of SARS in Vancouver. In that case, Vancouver General Hospital was closely linked to and had strong working relationships with the provincial agency, the British Columbia Centre for Disease Control. The B.C. Centre for Disease Control housed the provincial laboratory and epidemiology services. It had the depth of expertise, including expertise in vital areas such as occupational health and safety, infection control, infectious diseases, medical microbiology and epidemiology, to provide support to hospitals and health care facilities big and small.

As noted above, rapid, effective communication with health care institutions and front-line health providers is a vital tool in the fight to protect the public from infectious diseases and other health risks. A centralized public health agency, with the necessary resources and information technology and communication systems, could assist local public health units in communicating information about risks and could provide communication where a health risk is not of a local nature. Infectious diseases do not respect local health unit boundaries. In addition to strong communication policies and systems for local public health agencies, there must be strong communication policies and systems for the central public health agency.

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[763] Naylor Report, Walker Report, and the SARS Commission, first interim report.

In April 2004, in its first interim report, the Commission recommended:

> An Ontario Centre for Disease Control should be created to provide support for the Chief Medical Officer of Health and independent of the Ministry of Health. It should have a critical mass of public health expertise, strong academic links, and central laboratory capacity.[764]

A strong central public health agency was completely lacking in Ontario in 2003 when SARS struck, and is as necessary now as it was then. The commitment to resources and the attainment of a standard of excellence within the proposed agency remains a vital priority. Ontario's ability to effectively respond to future outbreaks remains in serious jeopardy without meaningful reform of our central public health system.

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[764] SARS Commission, *Interim Report, SARS and Public Health in Ontario*, p. 3.

May 23, 2003 – A Chilling Discovery

The morning of May 23, 2003, two physicians from Toronto Public Health, Dr. Tamara Wallington and Dr. Lisa Berger, along with Dr. Don Low, a medical microbiologist from Mount Sinai Hospital, arrived at North York General Hospital to review a few patient charts. By this time Public Health believed that Ms. N, who had previously been at North York General Hospital, was the index case of the SARS outbreak at St. John's Rehab Hospital. They also were very concerned about the Patient A family cluster, a family whose patriarch had died at North York General May 1, while hospitalized during the SARS outbreak, and who now had four family members in hospital, all with respiratory symptoms.

Hospital officials understood that Public Health was coming on site to review files in connection with the outbreak at St. John's Rehab Hospital. As noted earlier in this report, North York General Hospital did not know that it had sent SARS to St. John's through the transfer of Ms. N.

As Public Health officials reviewed charts on site, it became clear that there was a big problem: there was a large cluster of unidentified SARS cases among patients, visitors and staff, primarily connected with 4 West orthopedic ward. The exact scope of the outbreak was unknown, as was the source. Public Health officials determined that to contain the spread of SARS, North York General Hospital would have to close.

Prior to the closures of Scarborough Grace Hospital on March 24 and York Central Hospital on March 28, 2003, no one had ever had to close a hospital in Ontario because of an infectious disease outbreak. There had been no experience in conducting such an enormous undertaking. It is to the credit of these hospitals that they did their best and got the daunting job done one way or the other. On May 23, 2003, when it was determined that the emergency department at North York General Hospital (and eventually the entire hospital) would have to close, senior administration and the hospital SARS response team worked until the early morning hours and throughout the weekend to try to close the hospital and to ensure that the needs of patients and staff were met.

But as was seen throughout the SARS outbreak, a lack of planning and preparedness led to breakdowns in communication, as people struggled to do their best amidst the uncertainty and confusion of the day. Communication breakdowns occurred on many different levels at North York General: to staff working in the hospital, to staff who were off sick and to staff who were well but not working on May 23, 2003. The story of May 23, 2003, shows that, during a health emergency, the first question that must always be addressed is, are front-line staff safe? Whatever decisions have to be made, whoever has to be contacted to make those decisions, the safety of staff should be paramount.

The story of the identification of the outbreak on 4 West on May 23, 2003, also underscores the importance of regular, mandatory training programs on isolation policies and of the use of personal protective equipment in all areas of the hospital, even those thought to be "low risk."

As we have seen time and time again throughout the story of SARS, where the system failed, those most affected were front-line staff.

Investigation at North York General Hospital: May 23, 2003

At approximately 11:00 a.m. on Friday, May 23, Dr. Tamara Wallington, Dr. Lisa Berger and Dr. Donald Low met with North York General senior management, infection control and the leaders of the hospital's SARS Management Committee. Public Health officials explained their concerns and talked about the need to review the charts of Ms. N, her roommate and Patient A. The Public Health team did not know what was about to be discovered: that there was a large cluster of SARS cases in North York General, as well as associated ill staff and visitors. As Dr. Wallington told the Commission:

> We went there thinking, or at least I went there thinking, that it would be a relatively short meeting and that I would be there to review three, four charts. And they were very accommodating.

Senior management at North York General still did not know that they had undetected cases of SARS in the hospital. They had no idea of the importance the case review would have or that it would lead to the discovery of a large outbreak of SARS among patients, visitors and staff.

The focus of the Public Health investigation team at that time was where Ms. N, believed to be the index case of the outbreak at St. John's Rehab Hospital, might have contracted SARS. Additionally, Public Health wanted to further investigate Patient A's health history, as they were very concerned about the cluster of illness in four of his family members. As Dr. Wallington told the Commission:

> I was looking for a source. As far as I was concerned, Ms. N. was the index case for St. John's, so I was looking for the source case and I thought that I would find it at North York. I thought she had been at North York between April 22nd and 28th. She got sick on May 1st. Someone who got sick as a result of her being the index case at St. John's was diagnosed with SARS. So retrospectively, she was a SARS case and in my mind, when I was at North York, I was there to look for the source. Who did she get SARS from?
>
> And the first place that made the most sense to start was her roommate. Who did she room with at North York? And so we asked for her chart to be pulled and the roommates of Ms. N's and again, in the background there is also the [Patient A family] that we're worried about, that there's a lot of angst about. And so we said we need to review [Patient A's] chart as well. We've now got two people that we're worried about.

Around the same time that this meeting was taking place on the morning of Friday, May 23, the hospital, still unaware of what was to come, released the following update for staff:

> This morning we have some news to share with you. Last night, Public Health Chief Medical Officer Colin D'Cunha announced that four patients from St. John's Rehab have been classified as under investigation. Everyone who has been at St. John's Rehab between May 9 and May 20 are being asked to enter voluntary quarantine and contact public health in this morning.
>
> Yesterday afternoon, we had a patient from St. John's Rehab brought into the Hospital's Emergency Department. The patient was brought in with another medical illness, and then transferred to Scarborough Grace. As an extra precaution, the Emergency Department has undergone a heavy cleaning in its resuscitation area and sent staff and physicians who had

> contact with this patient home.[765]
>
> Anyone coming to the Hospital will be asked at the front door if they have been at St. John's Rehabilitation from May 9–20, and will not be permitted entry.
>
> We are now reviewing medical charts of patients who have come to the Hospital from St. John's Rehabilitation during the above mentioned time.
>
> Last weekend, we had some patients who were admitted and put on droplet/respiratory isolation. Public Health has reviewed these cases at that time, and along with other health officials they will be reviewing these cases in light of these new developments.
>
> We will provide you with an update after 2 pm this afternoon.[759]

After the initial meeting with the Public Health team, hospital officials left the boardroom, leaving Public Health to review charts. The Public Health investigation team recalled that the infection control practitioners also left the room but returned with a number of charts and asked the team to review them. As one Public Health physician told the Commission:

> They left us alone to review these charts after we had our meeting but the ICPs stayed, the infection control practitioners. And the next thing I knew they were carrying more charts into the room. Charts that we hadn't asked for. Names that I wasn't even aware of. And they were putting them in front of us, saying, could you please just look at this chart. We've always wondered about this patient.

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765. The St. John's Rehab patient referenced in the update was the patient who came to North York General from St. John's Rehab Hospital the night of May 22, and was intubated in the emergency department before being sent to Scarborough Grace Hospital. The staff and physicians working in the emergency department had not been notified of the SARS outbreak at St. John's Rehab Hospital and were not aware of the risks they faced or of the need to use protective equipment when caring for the patient. They, along with staff and physicians at Scarborough Grace Hospital, were understandably alarmed and angry when they later learned that there were SARS cases at St. John's Rehab Hospital. This story is told in the previous section.

766. NYGH, SARS Update #42, May 23, 2003.

As noted earlier, infection control told the Commission that they were unaware of an outbreak of respiratory illness on 4 West or of an increase in deaths on the unit. When asked how this reconciled with the information from Toronto Public Health that additional charts, including charts of patients on 4 West, were brought in on May 23 for review, one member of the infection control team explained that the charts were charts of patients who had been readmitted to the hospital through the emergency department with respiratory symptoms:

> Question: Okay, the question then or what we are trying to clarify is before the morning of the 23rd, or on the morning of the 23rd, were there charts other than those requested by Public Health, or were there patients that you were concerned about on 4 West?
>
> Answer: The thing about 4 West is when I had said I didn't know anything going on on 4 West, I was to referring to patients that were on the floor leading up to then. I knew about patients being readmitted, who had either been there or were relatives of those patients and such. I honestly don't remember what other charts were in the room on this …
>
> Question: When you say you knew about patients who had been there or had relatives, what was the …
>
> Answer: Ones that were readmitted and such. Like the [Patient A family], [the O family], [Ms. N], I remember her having coming back to emerg … My having not known about 4 West, that related to just patients who were on 4 West. Because I had mentioned that I can produce a list at any time of the patients who were on isolation in the hospital on their names being flagged in the Patient Care. And when I found the daily reports that we had run off, for May 20th, it didn't have anyone on 4 West. And that's what I was referring to when I said I didn't know about things going on, on 4 West.
>
> Question: Okay. So, other than these patients that you've mentioned, and this is what I am trying to understand, did you know about the cluster of respiratory illness on 4 West?

Answer: I knew about having come back into emerg but I didn't know about a cluster ongoing, going on on 4 West, it was only afterwards when everything was put together.

As noted above, included among those charts were those of the Patient A family members, Mr. O and his wife. Mr. O had been a patient on 4 West during May 2003. He was discharged from hospital on May 11, but was readmitted through North York General's emergency department on May 18. Mr. O's wife had also become ill and was also admitted through the emergency department, on May 20. Ms. N, the St. John's index case whose story is told in the previous section, was admitted to the 4th floor of North York General Hospital on April 28, following a knee replacement. After her discharge to St. John's Rehab Hospital, she developed fever, diarrhea and a cough. She was transferred to the North York General emergency department on May 9 and diagnosed with pneumonia. She returned to St. John's Rehab, where her condition improved, and she was discharged home on May 16, 2003.

Public Health officials told the Commission that while the charts were being reviewed and discussed, Dr. Barbara Mederski, the infectious disease specialist at North York General Hospital, was in the room, that she appeared familiar with these charts and that she offered her view to the Public Health team that these patients did not have SARS.

Dr. Berger told the Commission that as charts were brought in, things happened quickly and that it was clear fairly early that there was a very large problem:

Question: And how did that happen [the charts being brought in]?

Dr. Berger: I think they [the charts] were brought in by the ICP [infection control practitioner]. It is hard for me to recall. A lot of stuff started happening very quickly because as I recall, fairly early on, we realized there was a large problem and people started coming in and out of the room and charts were brought in and decisions started getting made. It was a kind of a rapid process. I just remember seeing a pile of charts on a counter and then we were asked to look at a couple more and then some names were raised as well. I don't remember if the charts were there for every name we were asked about.

Question:	And who was asking you about the names?
Dr. Berger:	The ICPs, infection control practitioners. I remember discussing the whole [Patient A] family at that point.

The Public Health team realized it was looking at a significant clustering of febrile respiratory illness associated with deaths, all on one small ward, 4 West. It was a very serious cluster of illness. As Dr. Wallington told the Commission:

> It was May 23rd that we made this determination that SARS, unrecognized transmission of SARS was happening on 4 West in particular. Patient-to-patient, patient-to-visitor, patient-to-nurse, nurse-to-nurse, nurse-to-patient, and then eventually it just became so convoluted that we couldn't link people anymore. It was the ward. Because we were unaware of how large this outbreak really was, we were unaware of how many cases we were really unaware of. On May 23rd we decided to treat North York General as an exposure site. Early on in the afternoon, the cases that we were reviewing all came from 4 West, so there was definitely a clustering happening on 4 West. But because we didn't know if there were cases beyond 4 West in the hospital, we decided to call the hospital the exposure site. And that is when North York General Hospital was shut down on May 23rd.

The charts were not the only sign that something was very wrong. Also discovered at this time was another key piece of information that signalled that there was a serious problem on 4 West: the identification of illness among staff. As the week had progressed, more and more staff from the 4th floor had called in sick for work. As noted earlier, there was a breakdown in the system intended to monitor illness among staff: sick calls from staff working on the 4th floor were not reported to the occupational health department. Senior administration and those in charge of the SARS response had not been notified that there was a cluster of illness among staff, so there had been no followup or investigation into the staff illness. Although the number of sick calls had been increasing throughout the week, it was not until May 23 that Occupational Health became aware of the large cluster of illness among staff on 4 West. The Occupational Health Coordinator told the Commission that she reported the illness among staff to Sue Kwolek, co-chair of the SARS Task Force. Ms. Kwolek recounted how she learned about the cluster of staff illness that afternoon:

> … sometime in the afternoon, the manager of occupational health and safety came up to the boardroom where the command centre was and she

> said there are quite a number of staff on 4 West who are reporting in ill. And that's the first time that, as a member of the SARS management team, and it was me at that point, there was nobody else on the SARS management team there, that I became aware that there was an issue on 4 West.

Bonnie Adamson, Chief Executive Officer of North York General, told the Commission that she became aware of the Public Health meeting that morning but that it was not until later that afternoon that she learned there was a problem:

> If I could just describe that day, in the morning [a colleague] and I were going to visit David Young, one of our MPPs, a regular visit, we took him all the sheets, everything that had gone on in SARS. And on the way out the door my secretary said to me, oh, by the way, [Dr.] Don Low is coming to the boardroom today. She had received a call from someone, and he's pretty important, maybe you should go into the boardroom on your way back, he's been on the TV. Maybe you should go to the boardroom. And I said, okay, I talked to David, and I came back, went to the boardroom and Dr. Low was there, all these Public Health people, Sue [Kwolek] was there, [Dr.] Barb [Mederski] was there, there were charts all over the place.
>
> So I sat there and I listened for a while and I couldn't figure out what in the world is going on, more charts and more charts. And after an hour I left, I thought, well, I'm not contributing anything here, but I went straight out and I called Keith [Dr. Rose] and I said, Keith, I don't know what's going on, but there's something going on. So I went back upstairs to my office and he was in and out, trying to figure out, no one seemed to know what was going on in there. About three o'clock, Sue [Kwolek] called from down there and said, you've got to come right away, they're going to shut us down. So I gathered up Keith [Dr. Rose] and away we went and we were there, and the rest of that is a bit of a fog. We went from there to the boardroom. We had the Ministry of Health on the phone and something drastically had gone wrong.

The discovery of a large cluster of unidentified SARS cases among patients, visitors and staff took everyone by surprise. One member of the Public Health team described how what seemed like a simple review of a couple of cases turned into a surreal experience as it became clear that they had a large outbreak among patients, visitors and staff on 4 West:

> … We traipse off to North York on Friday the 23rd, and we told North York, we're going to meet in the boardroom, be there at 11:30, we will review these cases to see if there is anything going on at all, thinking we'll be there about an hour and a half, and that was probably the most surreal day of my life, being in that place, that Friday, it was unbelievable. You are sitting in the boardroom and people are bringing these charts and you are looking at these charts and it became so obvious what was going on.
>
> It was chart after chart, and while this was going on, health care workers were phoning up the hospital saying they had fever, health care workers were arriving back in the emergency department with fever, the head of the emergency department was coming in to us in the boardroom saying, what am I going to do, should I shut down the emergency department because we've got all these people coming in …

To contain the outbreak, the hospital had to close. The first area to close was the emergency department, with the hospital closing a few hours later.

The notification of staff and the shutdown of the hospital commencing on May 23, 2003, was a huge task. A hospital the size of North York General Hospital could not stop on a dime, especially when it was full of ill patients who continued to need medical care.

Heroism Amidst Chaos

Although the hospital was closed to new admissions, the emergency department remained open to receive staff and patients who had been exposed to SARS. As well, those patients already in the hospital who were suspected of having SARS or of having been exposed to SARS, who could not be transferred out, had to continue to receive medical treatment. This meant that the front-line staff at North York General had to don protective equipment and provide care to possible SARS cases. These cases included patients already in the hospital as well as new suspected SARS patients, including staff, as they came to the emergency department.

One doctor who was not working that day recalled being paged by Dr. Keith Rose to come to the hospital that afternoon to help. This doctor stayed all weekend, seeing patient after patient, including the ill 4 West nurses who had been told to come to the hospital. As she told the Commission:

> We just kind of looked at the list and basically, okay, you do this and I do this … Then I just went see one after the other.

Emergency room staff and physicians worked long hours, providing medical care to those suspected of having SARS. Less than a week earlier, many had attended the May 20 meeting and had tried to convince senior management that SARS was still at North York General. But they put aside whatever anger or disappointment they felt when they learned they had been right all along, that SARS had never left, and once again they stepped up and put the health and well-being of others first.

Those nurses from 4 West who were not ill had to come to work over the weekend of May 24 and 25, until the unit was put on home quarantine, on May 26, 2003. They knew their colleagues were ill and they were frightened for their own safety. Unlike many of the emergency room nurses, the 4 West nurses did not have the experience of and confidence from having already cared for SARS patients. But they continued to come to work to care for the patients on their unit.

One nurse from 4 West who worked the weekend of May 24 and 25, 2003, recalled how afraid she and her family were, knowing she had to go back to work the next day, in the epicentre of the outbreak:

> I remember going Saturday morning and I said to my husband, he was in the other room, and I said, I'm going to go, but I am so afraid, and I saw my husband's face and we both had tears in our eyes because I thought I was the next one to get it. I was just so emotional. I just felt so awful. I have to go in, I'm still standing here, I haven't got SARS – well, to me I didn't have SARS – but I thought I was going to be the next one, because all our nurses were falling down.

When she was asked by the Commission if she ever considered not going to work, she said:

> I was one of the ones that could go in, to help my work. I think it's your duty to go in as a nurse, to go to the last, to the very end.

These are the heroes of SARS. It is a strong testament to the dedication and professionalism of the front-line health workers and physicians at North York General that amidst the confusion, uncertainty and fear of that day, they did what they had to do to provide care to those who were ill, among them their own colleagues. Without the commitment of physicians and nurses like those quoted above and so many others who worked the front lines and provided patient care, SARS could not have been successfully contained.

Closing the Hospital: The Eye of the Storm

Before SARS, it was unheard of in Ontario that a hospital the size of North York General would have to close at all, much less close as quickly as North York General did on May 23, 2003. The decision to close the hospital, although clearly necessary, had huge consequences for the hospital, its staff, its patients and the entire community. It was not a decision that was made easily or lightly. As one physician said:

> So what would it do to the hospital is, it would devastate it, and it did. Closing the hospital, rightly or wrongly, it did devastate the hospital for several months, many, many months. And what it would do to the staff, the same thing, essentially, it would be huge, this was a huge, huge decision that had wide-reaching ramifications for thousands of people …
>
> People were very frightened, they were concerned about their families, their livelihood, their income, their financial security. They were concerned about their colleagues, their future, that was a very devastating thing. There were repercussions and the multiple fingers of events that had to unfold as a result of that are just phenomenal. There were people there all night, all weekend, trying to get things sorted out.

To close the hospital, many decisions had to be made, each one important and with far-reaching consequences. And, as the above-quoted physician pointed out, the hospital had to close but keep running, as had it to care for patients but at the same time ensure that staff were safe:

> We had to close it but keep it running, because we still had patients there and we had to transfer patients out and we were bringing patients in, and we were trying to keep people coming to work because we needed them to come to work, so that we wanted to do that in a safe way. And from what we knew, we didn't know everything about SARS at that point, so it was a very difficult balance to maintain, to try and get people to keep coming to work, which is the whole issue with work quarantine, the same thing, home quarantine versus work quarantine. The only reason that we were work quarantined is because they needed us to work and we needed to look after the patients. So we needed people to come in and maintain

> the support services and keep doing their jobs, but at the same time we wanted to protect the staff.

This physician described the challenges as they tried to close the hospital but keep it running for the patients who had to remain inside:

> I remember sitting in at the boardroom table with Bonnie Adamson and all the senior admin people, and Public Health and most of the clinical chiefs and support staff, and I think it was Public Health that told us, I believe it was at that meeting, that they were going to close everything and quarantine everybody. And we were discussing the wisdom of the quarantine and who should be quarantined and then when it was finally, the clinicians all had their opinions about that and what it was going to do to the staff in the hospital. Then after it was decided that that was the way it was going to be, then we were talking about how we were going to notify people and call people and distribute the workload and how this was going to be done. And we each had our own separate areas of responsibility …

Although the hospital had to close to new admissions, it also had to ensure that patients who would otherwise come to North York General got the medical help they needed. Dr. Tim Rutledge, Chief of Emergency Medicine, told the Commission that closing the emergency department required huge public notification and that they also needed to ensure that patients who had been at North York General, and had therefore possibly been exposed to SARS, had a place to go to get medical attention:

> [The emergency department was] completely shut down to the public. Huge public notifications, but we kept it open for staff and patients of the hospital that were returning, select patients to return. So patients that may be having difficulty accessing care elsewhere because they'd been a North York General patient. Any patient that was even concerned they might have SARS because they'd been at our hospital, we saw. Now, we didn't see that many patients but we were open for those patients.

Alternate care arrangements had to be made for ill patients who would not be able to obtain treatment within the hospital. A patient who had cancer still needed treatment, regardless of what was happening at North York General Hospital. As one physician told the Commission:

> Everything got shut down. Even cancer patients that we had scheduled for the following week were put on hold and we were all scrambling to

> get them distributed to other centres to get them looked after. Because no new admission was going to come in, unless they were a SARS patient or our own staff.

Another important responsibility was notifying staff. This included those who were working in the hospital, those who were off ill and those who were off work but were not known to be ill. The scope of the outbreak was unknown. Any one of the health workers could have been exposed. Those who were at home could be exposing their families. Those who were in hospital working unprotected could be exposed to SARS that very day.

The task of notifying staff and identifying patients and visitors was daunting in a hospital that employed thousands of people and saw hundreds of people enter its doors on any given day. One physician who was involved in closing the hospital and notifying staff described the enormous task that lay ahead of them:

> It was a monumental task to try and contact everyone that had been in that hospital that day and the previous eight days. Just in my own little world, the ICU, we have over a hundred nurses, just nurses. What about all the physicians, all the cleaning staff, all the dietary staff, the RTs [respiratory therapist], the physios, the occupational therapists. When you think of all the people that had come in contact with just our little unit, 24-bed unit, it's huge, and who was going to do all that calling. Myself? The unit manager? A couple of our assistants? We recruited people, we got volunteers, I think everybody did the best they possibly could but it was not comprehensive because it was impossible to be comprehensive, doing the notifications. It was just impossible.

At 5:10 p.m. on May 23, the hospital released an update to staff in the hospital:

> Further to our update this morning, Ministry of Health officials, Toronto Public Health and Dr. Donald Low, Chief Microbiologist at Mt. Sinai, were on site.
>
> We have patients with undiagnosed respiratory symptoms including some health care workers. They are being assessed as "persons under investigation" until a more definite diagnosis is determined.
>
> We have decided to undertake extraordinary precautionary measures and the following steps are being **implemented immediately at the Leslie**

> **site only**: [emphasis in original]
>
> - No transfers out
> - No admissions
> - No volunteers
> - Full barrier precautions
> - No visitors with the exception of:
>   - One parent will be permitted to visit a child;
>   - One person can accompany an expectant mother;
>   - One person will be permitted to visit a critically ill patient and palliative patients.
>
> We are still accepting patients for obstetrics (Labour and Delivery), but have closed Emergency Department to walk-ins and ambulances.
>
> The Branson site, Senior's Health Centre and Philips' House are being treated as separate institutions. They are to continue business as usual, but be vigilant in monitoring their environment. There will be no transfers between any sites.
>
> The management team continues to work on this throughout the evening with Toronto Public Health and Ministry of Health to obtain additional information regarding our situation and status.
>
> Senior Management will be walking around to speak with staff with this information and to keep you updated. We will provide you with further information as it becomes available.
>
> The Ministry of Health and Long-Term Care will hold a press conference tonight at 7:00 p.m. Bonnie Adamson will represent the hospital at the press conference.[767]

In a communication disaster, details of the outbreak that conveyed the situation as much more serious than what was reflected in the 5:10 update to staff would be announced at the press conference at 7:00 that evening, before the hospital had told staff. Staff would learn from the news that approximately 25 people were under investigation for SARS the evening of May 23, many of them health workers.

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[767] NYGH, SARS Update #43, May 23, 2003, 5:10 p.m.

It is difficult to imagine the chaos and stress at North York General that day. One member of the Public Health team tried to describe to the Commission what it was like at North York General on May 23. He likened it to the eye of a storm:

> … All of a sudden you have this boardroom full, all the hospital administrators were there, and people asking her questions, "What are we going to do?" "Are we going to close obstetrics?" It was like this whole thing was just rolling out in front of us, and trying to get hold of Colin [Dr. D'Cunha] on the phone and couldn't get anyone in Public Health, at the Ministry, and so finally, early in the evening, we decided we're closing the emergency department, and then later in the night we closed the hospital. It was ridiculous. It was so bizarre, it was like you are in the eye of a storm.

There is no doubt that the task of shutting down the hospital and notifying staff was huge. Compounding the problem was the fact that no one had ever prepared for such an event. There was no system in place to be kicked into gear, to ensure rapid notification to staff, both in the hospital and out. But while the enormity of the task may explain some of the problems in notification, it does not explain them all. Some key areas in the hospital were left out of the communications loop, not just for a few hours, but in some instances for days.

Notification of Staff in Hospital

After May 23, when the story of the discovery of the second outbreak began to spread among hospital staff, it became known that Public Health and Dr. Low had been on site since the morning reviewing files and that senior management had met with Public Health officials and Dr. Low. Post-SARS, many questioned why they didn't learn about the outbreak sooner, and why they weren't protected sooner.

One nurse questioned why it took the hospital so long to warn them that something was wrong:

> On Friday, May 23rd, [Dr.] Donald Low and an entourage of people were in our hospital walking through the halls, and at 5:00 o'clock we were shut down. Why were we not warned that day? I just feel there was very poor communication … The way I see it, they back up that, they did this, they did that. But it's the timely fashion in which they execute these things and how long it takes them to make the decision to act upon

> something. They are always way too late.

One nurse from 4 West who worked on May 23 and was later admitted to hospital with SARS told the Commission that she had no idea that there were concerns about SARS in the hospital on May 23. She worked a day shift, without protection, on a unit that we now know was full of SARS. She finished her shift, went home and was unaware of any concerns about SARS. Later that weekend she developed symptoms, and she was admitted to hospital the following week. While in hospital, she learned that the outbreak was identified on May 23, and she wondered why she and her colleagues weren't told that day. She said:

> I found this out after, on the Wednesday, when I was admitted. I spoke to one of my co-workers and she said they suspect there was SARS on that Friday. I said, well I worked the Friday [May 23rd] and nobody told me. It was hush-hush, hush-hush.

Another nurse worked the day shift on May 23, and left for home mid-afternoon. She worked on the 4th floor, without any protective equipment. When she left for home, she had no idea about the outbreak on 4 West and did not learn about it until she received a call at home the following day, Saturday, May 24, telling her she was on home quarantine. As she said to the Commission:

> I was surprised it took so long for them to actually close the floor [the 4th floor]. When you have this many people sick on the unit you want to investigate. If something is being spread you want to close the unit immediately …

Retrospective accounts of when staff were told to reinstitute precautions vary. Some staff who worked on 4 West reported that between 3:30 p.m. and 5:00 p.m., they were told to begin using protective equipment again. Other staff suggest it was later.

By May 22, 2003, Public Health officials knew that they had a SARS case with a link to North York General. They were also concerned about the Patient A family cluster, a family whose patriarch had died on 4 West on May 1 and that had four family members in hospital with respiratory illnesses. Public Health officials were coming to the hospital the following morning to try to identify the source of exposure, as they believed Ms. N to be the index patient of the outbreak at St. John's Rehab Hospital. The night of May 22, 2003, hospital officials were notified that Public Health was coming on site the next day to review files in connection with the St. John's outbreak.

But front-line staff were unaware of these developments.

Although no one knew that there was a large undetected outbreak in the hospital, there were concerns about how Ms. N had gotten SARS and concerns about whether Patient A and his family had SARS. And although Ms. N was no longer in hospital, and although Patient A had since passed away and the Patient A family members were in isolation, being handled with precautions, if these cases were SARS, no one knew the source. As noted earlier, Toronto Public Health told the Commission that the link between Ms. N and Patient A did not become clear until they were on site reviewing charts on May 23. In the meantime, there was one case positively identified as SARS who had been at North York General. But there seemed to be no attempt to investigate or ascertain where exactly she had been in the hospital and to ensure that staff working in that area were put on alert, and no one took a precautionary approach and advised them to don protective equipment until they knew what they were dealing with. There was no system or standard or protocol in place to require this precautionary approach. There should be.

Once Public Health arrived on the scene, they knew very soon that something was very wrong. One member of the investigative team said that within an hour of their arrival it was clear that there was a big problem. Hospital representatives were in the room while files were being reviewed. While there are differing estimates of precisely when it became clear that there were unidentified cases of SARS in the hospital, we know that the chart review began at 11:00 a.m., and that the problem became clear fairly early. Dr. Berger told the Commission that it became apparent that there was a problem very soon after they began reviewing charts:

> Question: So you start reviewing the charts. When did it become apparent that there was a big problem?
>
> Dr. Berger: Very soon upon review, because Patient A had symptoms that were consistent with SARS and I think that at that point [another patient name] chart had been brought in and it seemed apparent that he had symptoms consistent with SARS. It became evident fairly soon that there was transmission going on there and that there was a problem. I don't recall the time frames, but it didn't take a long time to figure it out.
>
> Question: Was it in the afternoon, before supper, when?

Dr. Berger:	Oh yes, we started at 11:00 and it happened very quickly. I think it was mid-afternoon when we closed the hospital, so it had to have happened between 11:00 and 3:00.

Toronto Public Health officials told the Commission that as part of the response plan put into place that afternoon, they told the hospital to reinstitute precautions. Public Health understood that it was the hospital's responsibility to ensure that that was done and that the information was communicated to staff.

By approximately 2:00 p.m., the cluster of ill staff was being reported to the hospital's SARS Task Force. By 3:00 p.m. the hospital was being told it had to close. One member of the Public Health team recalled that they wore masks while in the boardroom on May 23. Although they could not recall at what time they put the masks on, they thought it was before the decision to close the hospital at 3:00 p.m.

Post-SARS, the failure to effectively communicate with staff on May 23, 2003, about the outbreak, the risks they faced and the need to protect themselves has left some health workers feeling betrayed and angry. Some staff told the Commission that they thought that Ms. Adamson and other senior officials knew about the outbreak that morning but that they did not tell staff about it as the day unfolded.

The Commission accepts the evidence of Ms. Adamson that she was unaware of the outbreak until the afternoon of May 23, 2003. The Commission finds that there is no evidence that hospital officials deliberately kept information from staff about the outbreak, or that they withheld notifying staff about the outbreak for any improper purpose. The Commission further finds no evidence that senior hospitals officials deliberately put staff at risk.

The Commission does find, however, that the health care system was unprepared in the event that it became necessary to close a hospital in the face of an infectious disease outbreak. The systemic failure to plan and prepare for an infectious disease outbreak in hospitals meant that staff were not informed in a timely manner that there might be unidentified cases of SARS in the hospital. In particular, the Commission finds that a system should have been in place to ensure that the staff on 4 West were told sooner about the possibility of unidentified SARS cases on the unit and that precautions should have been reinstituted earlier.

The problem was that in all the chaos, while decisions about what to close and how to close were being discussed, staff in most areas of the hospital, including 4 West, were working without protective equipment. By the time the first update was issued at 5:10 p.m., some staff had worked an entire shift that day without wearing any protective equipment. Although North York General made efforts on May 23 to notify staff of their danger, the warnings in some cases came too late and they did not reach all staff in a timely manner.

Even if the links were not clear, even if the decisions on whether to close the hospital and how to go about doing it were unresolved, and even if there was great uncertainty about the scope and the size of the outbreak, front-line staff should have been told of the risk the minute it was reasonably suspected. Even if this meant overreacting or reinstituting precautions temporarily, the protection of front-line staff had to be the first priority. As one nurse said:

> Don't you think the CEO should announce there is a problem going on in emerg, we're investigating into it, there is suspicion that maybe SARS has been spread …

As noted above, Ms. Adamson told the Commission that she did not become aware of the problem until mid-afternoon. The Commission accepts her evidence on this point. But other hospital officials were in and out of the room. Charts were pulled, and the Public Health team reviewed files throughout the morning. The fact that the situation was not made clear to Ms. Adamson earlier did not alter the risk to staff or the need to ensure that they were protected.

This is not to say that hospital administrators, physicians or infection control involved in the May 23, 2003, meetings were unconcerned about staff safety. The Commission does not accept any suggestion that any one of these individuals would knowingly and intentionally put staff, patients or visitors at risk. But the hospital, like most hospitals in Ontario, was unprepared for the news on May 23. Although it had instituted precautions and had been providing care to SARS patients during SARS I, it had never had to ramp back up on a moment's notice.

In the chaos of the day, front-line staff were left in the dark far too long, and were left unprotected. One clear lesson from SARS is that whatever crisis unfolds, whatever decisions have to be made, the number one question that must always be asked is, are measures in place to ensure the safety of staff, patients and visitors? Until that is done, all the resources of an institution should be focused on the single goal of protecting those within the institution. A key part of this is communication with staff. Unless staff know where there is a risk, they cannot protect themselves.

Hospitals must plan for the worst. In the wake of SARS, we now know that a hospital may have to close its doors suddenly, when it is full of patients and with staff on the front lines who must continue to provide patient care. There must be clear policies, tested and evaluated, that ensure that if and when it becomes necessary to close a hospital or to institute precautions, all staff are notified quickly and steps are taken to protect staff at the earlier possible opportunity.

When dealing with an infectious disease, one day can make a huge difference. An hour can make a difference. Had Mr. T, the first index patient at the Scarborough Grace Hospital, been isolated immediately under precautions, the first outbreak of SARS would probably have been stopped in its tracks, as it was in Vancouver. Mr. T's exposure to staff and other patients within the first 24 hours of his admission to hospital had profound consequences.

These examples provide compelling evidence that a few hours of exposure by an infectious patient can spark an outbreak. Every moment that staff at North York General worked without protection put them at risk.

The Scramble to Reinstitute Precautions

As news of the outbreak spread and staff were directed to reinstate full barrier precautions, they faced the challenge of gathering equipment and reorienting themselves to the proper procedures for the application and removal of the equipment. Because precautions had been relaxed earlier in May, some units did not have an adequate supply of the necessary protective equipment. For many, the situation seemed chaotic and confusing, which only added to the level of anxiety among staff.

The 4th floor, the epicentre of the second outbreak, had not previously been considered a high-risk area for SARS. The unit had not previously been used as a SARS unit, and it was not expected that the nurses on the unit would be caring for SARS patients.

As noted earlier in the report, many of the nurses from 4 West told the Commission that they received no training or education with respect to the use of the equipment or the proper isolation techniques prior to May 23, 2003. They had not been fit tested, and a number of them later learned, when they were eventually fit tested, that they had been wearing a respirator that did not properly fit their face. Although 4 West was staffed by senior, experienced, knowledgeable nurses, they had received no special training or education for handling a SARS case. Although safety training and fit testing were required by Ontario law, that requirement was ignored by, and in fact unknown to, most Ontario hospitals.

Imagine, then, the fear of knowing that you had to enter a room and provide care for a SARS patient, worried that you might not have everything you needed for protection and having learned how to apply the equipment only moments before entering the room. With practice comes familiarity and confidence, a comfort that these nurses did not have at this time.

One 4 West nurse who worked in the days after the second outbreak was discovered described the confusion as she tried to gear up to provide care to what was by then known to be a suspect SARS case:

> They were slowly collecting equipment. The UA [unit administrator] showed up on the ward early in the morning … She was there trying to tell us how we were supposed to dress to protect ourselves and how we handle all this isolation. I did isolation downtown many years ago but they never had any reorientation on it … They were trying to direct us. First they were in the change rooms telling us, now we have to go into this room and put on the scrubs now, this was all happening just on the Sunday morning … But they first spent at least a good two, three hours finding all the proper equipment for respiratory isolation of a SARS patient … We needed booties, we needed caps, we needed still more things than just what they were doing on Saturday evening.

One 4 West nurse worked on Saturday, May 24, 2003, and had to transfer a patient to the SARS unit. Another health worker involved in the transfer wore a Stryker suit, which afforded more protection than the protective equipment the nurse was wearing. The nurse had never used a Stryker suit before but thought it seemed like a good idea to have the most protection available:

> When I went to work, I remember saying there's an outbreak and we have to wear the PPE and also I remember I had to transfer a patient to the SARS unit. I just came on shift and I was told that this patient had to be transferred, they weren't doing well … An RN had to go with the patient. The RT was there and the doctor was there and because I guess her sats were low so they were there trying to titrate the oxygen and whatnot, seeing there would have been a problem. And when we were ready to transfer, they said an RN has to go.

> So I was basically going to go with my my yellow gown and mask and with the PPE basically. Then I saw the RT all dressed up in this white suit. So I asked him where did you get that from? And then he asked me, do you want one? So he went somewhere and got one for me, a Stryker suit, so I wore that on top of my PPE and so I had that to transfer the patient to the 8th floor.

She had received no training in how to use a Stryker suit and had never seen one on her floor before this. Whether or not the Stryker suit was necessary in those circumstances is irrelevant. It must have been both confusing and frightening to observe varying levels of protection without clear training to educate staff on how and when to use the equipment.

Another 4 West nurse who worked the entire weekend described the fear and confusion as staff tried to help the patients but also to protect themselves:

> Every day you'd go in and it was just like a war zone, you thought, uh-oh, you're next. It was just crazy. At that point I know they made us take, get out of our own uniforms and put on the hospital uniforms and to put the high-risk, you've got your goggles, you had to wash in between every step, and that was the directive from Saturday, that Saturday and Sunday, and then Monday was the horrendous day. We were just trying to get people home or get them out of our unit, the ones that were okay to leave.
>
> And so around 7:30 that evening they told us okay. There was only three of us left on the floor and then the SARS nurses came in like robots in full gear, they had their helmets, everything on. We didn't have the helmets or anything, we just had our masks, our goggles, our gloves. They said okay, you go home, you're staying home, you are quarantined now, don't leave the house until you get further notice ... That was the Monday evening, we were given a box of masks to take home and just not to leave our house, and I was worried about my family too but they said they should be okay, just wear a mask and use your own utensils, your own towels, not to sleep in the same room as my husband, they gave us those directives and that was the scariest time of my life.

What makes this nurse's story even more remarkable is that she is the nurse quoted earlier in this report who said she never once thought about shirking work that weekend, even though she was terrified of becoming ill herself or of infecting her family.

This shows the danger of limited training in the use of personal protective equipment. Infectious diseases like SARS do not respect boundaries within hospitals. Infectious diseases can spread undetected in hospitals, and an unidentified case of SARS or any other infectious disease could end up anywhere in a hospital.

As noted earlier, North York General was not the only hospital in Ontario that had allowed infection control standards to decline. Nor was North York General the only hospital to use the N95 respirator without proper training and fitting. Unfortunately, in a major systemic flaw, few in the health sector were aware of requirements under the *Occupational Health and Safety Act* and Health Care Regulations 67/93 that staff must be properly trained and fit tested to use the N95 respirator.

Post-SARS, we now know that strong programs are required throughout the health system to promote and maintain safe work environments: both strong infection control programs and strong worker safety programs. Patient safety and worker safety go hand in hand. One does not exist without the other. Hospitals must support resource programs to provide regular, mandatory training for all front-line staff in proper isolation techniques, precautionary measures and the use of personal protective equipment.

The Ministry of Health and Long-Term Care and the Ministry of Labour must work together to hold health care institutions to the highest standards of patient and worker safety, to ensure that as the memory of SARS fades and as budget pressures loom, infection control and worker safety standards are maintained. Much like public health, if we do not provide the resources necessary to address the gaps identified during SARS, if we allow the system to slip back to the way it was, when the next health emergency comes, we will see the same problems that arose during SARS. This time, however, there will be a greater risk that if workers feel that they are unprepared and unprotected for the risk we ask them to face, they will decide not to work.

Notification of Sick Staff

On May 23, 2003, it was finally brought to the attention of senior administration, occupational health and those in charge of the SARS response that there was a problem of illness among staff. With the discovery of unidentified SARS among 4 West patients, it became likely that the nurses who were sick from that unit were sick with SARS. It was no coincidence that there was a cluster of ill patients and a cluster of ill staff, both from the same unit.

Staff who had been at home sick had to be brought to the hospital to be assessed for SARS. Occupational health and supervisory staff from 4 West began to call those nurses they knew were at home ill, to tell them to come to the hospital for assessment. But the nurses were not told that it was for assessment for possible SARS.

All the nurses interviewed by the Commission who were ill at home with SARS in the days leading up to May 23, 2003, reported that they were not told that they were being brought in to be assessed for SARS or that they were going to be admitted. Post-SARS, many are angry at this lack of communication, and question why they weren't warned what was happening. As one nurse said:

> Occupational health calls me, the nurse from occupational health called me and she said a lot of you girls have called in sick in the last one week, at least six or seven of you all, and that Dr. Mederski, she's the infection control doctor, would like to come to assess you all, I was told to assess us. So I dropped everything and then my husband drove me there and I went there and I saw the rest of my colleagues sitting outside the 8th floor. Shortly after that the occupational health nurse came and said you all are going to be admitted for probable SARS. I was very angry. Somebody could have at least said something to me or given a hint that that's what they were calling us for.

This nurse told the Commission that she had no idea what was to come. She said she had just purchased a meal and that she had told her husband to save it, that she would finish eating it when she came back. Her husband drove her to the hospital without a mask, both of them completely unaware that she might have SARS. She described seeing her colleagues and being admitted under investigation for SARS as a "total shock." She also described to the Commission how frightened and angry she was, worrying whether she had infected her family. She said she struggled to tell her family what was happening, knowing that she had possibly exposed them to SARS, and how she especially worried about her husband, who had had health problems before SARS:

> I was so angry about whether I had infected him [her husband]. It was a rollercoaster, mentally, whether I had infected him and my [child] who's at home … So I was admitted and it took me a while before I could even take the phone and call my husband and tell him what happened … It was a very difficult year for us, and time, and I was just going crazy thinking about my husband. I thought I could have infected him and he could die. And it was a rollercoaster, not only thinking about him, and then me

> being in that isolation room, sitting there, being a nurse and knowing that SARS is a new disease and they really don't know how to treat us … Mentally it has affected us a lot, sitting down there in that room thinking, am I going to go home alive. And I worried about my family too, at the same time, have I infected them.

Another 4 West nurse had been off sick that week, as she had been ill since May 18. She had gone to see her family doctor on May 21. Her family doctor had sent her to the emergency department at the Branson site, but she was sent home, as she was thought to have the flu. She recalled being contacted at home the afternoon of Friday, May 23, 2003, and being told to come to the hospital:

Answer:	So we came home [from the emergency department] but my symptoms were present and even worse, I couldn't sleep and I couldn't eat. I remember I was crying and my children, and my husband were staying near me. Nobody called me from work, nobody asked me how I was doing. Just Friday, May 23rd, my manager called me from my floor and she said I am supposed to come to the hospital. So I remember I came around three or four o'clock.
Question:	Did she tell you why you were having to come in?
Answer:	Yes, I asked her but she said, don't ask me, just come.
Question:	Did she say that you had to wear a mask to come to the hospital?
Answer:	No. When I came to the hospital, they gave us everything, masks, hat, shoes, gown.
Question:	How did you get to the hospital?
Answer:	My husband drove me, by car. So I was waiting there, all of us in the hallway, all of us. It was scary, you know, to look, I don't know, the people were very sick, they are just lying down and not talking, not anything, but we were waiting there in the chairs …

As noted earlier in the report, the unit administrator for 4 West was unable to be interviewed by the Commission and was therefore unable to provide her perspective of what occurred on May 23.

Another 4 West nurse who had been off sick prior to May 23, 2003, had gone to her family doctor to obtain a referral for a chest x-ray. No one had contacted her from the hospital while she was off sick. She did not know that a number of her colleagues were also ill. When she returned home that afternoon, she had a message to call the occupational health department:

> So I went to get a referral for the chest x-ray and unfortunately, the lab was closed, so I had to come back Saturday. So I have the referral, I went home and [her child] said, Mom, occupational health called, and they said you have to go report to North York General to see Dr. Mederski. And so I phoned North York General, the occupational health department, and I said, can I please go to Markham Stouffville, which is closer? They said, no you have to come here and see Dr. Mederski. So I went, my husband drove me. And then when I was there, they didn't tell us that I would have to stay in the hospital. I mean, just to see Dr. Mederski and go, she says go to the 8th floor. So I went to the 8th floor, I was gowned and everything now at the entrance. And they said, just wait for somebody to open the door. I had my cellphone with me in my bag. But I was waiting very long at the door and nobody was opening it and I was gowned. I was sweating and everything.
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> So I phoned the unit, 4 West, and one of our colleagues was in charge. I said, what's happening, can you phone them inside? Then she tried to phone and finally, by chance, there was a lady going in there. The door opened so I went in and to my surprise, in the waiting room, some of us were waiting. Some of them were already in. Nelia Laroza and her son were already in, were already admitted. And I don't know who else was admitted … I think there were four of them and the rest of us were still waiting. So, are you here too? Why are we coming here? So that night, I think I was admitted around 1:00 a.m. I had told my family, my sister, my husband, I will phone you to come and pick me up, not knowing that I would stay there. And I stayed there for 20 days.

When her husband drove her to the hospital, neither of them was wearing a mask and they did not know that she was going to be assessed for possible SARS.

Another 4 West nurse who had been off ill that week reported that when she received the call that afternoon to report to the hospital, she too had no idea she would be admitted and she did not know that she was going to be assessed for SARS. She took a cab to the hospital. Neither she nor the cab driver wore a mask.

Toronto Public Health told the Commission that when the outbreak was identified on May 23, they understood that the hospital would notify ill staff that day and have them come to the hospital to be examined for SARS. Toronto Public Health understood that the occupational health department at the hospital would be contacting the ill staff.

The occupational health coordinator was asked by the Commission whether there was a script for calling the ill nurses and why the nurses weren't told they were coming to the hospital to be assessed for SARS:

Question:	Post the 23rd, was there an investigation into what happened?
Answer:	I don't know about an investigation. I know that I became aware about 2 o'clock, well, I think [a colleague] told me a little ahead of time, but there was a meeting at 2 o'clock with the Committee upstairs, and I sort of reported to them, people had been phoning in sick with flu-like symptoms. So it was decided at that point to call them all back and have them come in for assessment and admission, which I did.
Question:	And at that point in time, was it clear or were you aware that these …
Answer:	We were suspicious, yes.
Question:	The staff were phoned, and was there a decision as to what they would be told, was there a script provided to you? Was that discussed in the meeting?
Answer:	Not really, we were just told to call them and say, you know, "we're concerned and we want you to come in. Dr. Mederski will see you and make an assessment and you may be admitted as required." I think everybody at that

point kind of thought that they were probably SARS.

Question: And who was making the calls?

Answer: I was. Well, myself and the Occ. health nurses. And I think that was a Friday as well.

Question: To your recollection was SARS mentioned in the telephone call?

Answer: I can't recollect.

Question: Did you recall if you told them that there were many of them that were sick, would they have been aware that their colleagues were sick?

Answer: I didn't make them aware because that is a confidential thing, but I think they had been talking to each other.

Question: Well, actually, one of the things that has become pretty apparent is that staff that had been called in on the 23rd, in fact almost all of them complained that when they came in they actually didn't know they were coming in as a potential SARS case, they didn't know that their staff colleagues were sick. So what happens is, they get a phone call, they come in, they show up and they see all their colleagues sitting in a waiting room outside 8 West and that that was very shocking to them …

Answer: That was very shocking, that would be.

Question: Can you understand how that would happen?

Answer: Yes, I can understand, well …

Question: How did that happen?

Answer:	I don't know how that happened, because my understanding was that they were coming in to be assessed. I didn't know they would all meet up together.
Question:	Well, was it communicated to them that they were coming in to be assessed for SARS?
Answer:	I believe, I don't know if I mentioned SARS but I said they needed to come in for assessment because we wanted to rule out, you know, it's so hard to remember now.
Question:	Sure. And you know, certainly not looking to blame anybody but as far as a lesson learned, is there a way to improve on that communication. I appreciate there are patient confidentiality issues, but you can understand if you're a nurse and you get a call and the call is: "I understand you are sick, would you come in for assessment," you might come to a different conclusion if you understand that there are ten of your colleagues who are also coming in for assessment. Is there a way to bridge that?
Answer:	Yes, a couple ways, I could probably say, we've had a number of sick calls from your unit and we want you to come in for assessment, along with some other of your colleagues.
Question:	Did you develop a script as time passed for contacting staff who were potentially exposed?
Answer:	Well, when we put the 4 West staff on home quarantine, yes. We just need to know if there were signs and symptoms that are applicable, and they knew we would be calling. Because we went up and we had a chat with the staff and told them what the expectations were going to be.
Question:	Okay. So is it fair to say that when you were phoning the staff on that day on the 23rd, you were just really

going off the top of your head and that you had been given no specific instructions about what to say, you were just using your best judgment.

Answer: No, no, in fact I thought they were just coming in for assessment and then I went back up and they said, no, no, no admissions.

Question: And that was the other thing is a lot of them said they came ill prepared to be admitted. So your understanding was they thought they were going in to be assessed.

Answer: Yes, and then they said, admission, so it was tough.

As noted above, all of the ill nurses who spoke to the Commission said they were unaware that they were going to be admitted and they were unaware that they were going to be assessed for possible SARS. Simple things like being open and clear with ill staff and notifying staff who were at home and may have been exposed were missed in the chaos and confusion of the day.

The lesson from SARS, learned through the pain and suffering of those nurses from 4 West who arrived at the hospital completely unaware of what was to come and shocked by the discovery that they and many of their colleagues were being admitted for treatment for SARS, is clear. Communication with staff must, above all, be open, forthright and clear.

Notification of Staff at Home

When the outbreak at North York General was identified on May 23, 2003, one of the things that became critical, in addition to notifying staff who were in the hospital, was notifying staff who were not working that day but were at home on a scheduled day off. Because there were so many ill patients, staff and visitors, no one knew where SARS might have come from or where it might have spread. Until all the cases and contacts were identified, any employee who had worked at North York General could have been exposed to SARS, either through an ill patient, a visitor or a colleague.

Hospital administration worked very hard to contact staff. Dr. Rutledge described how he and others worked until the early morning hours, phoning doctors and nurses to let them know they were on quarantine:

> Later that day [May 23], I guess it was determined that North York General was the source of the St. John's outbreak, and by 5:00 p.m. it was determined that we, all of the members of our hospital community, were to be put on work quarantine. So from 5:00 p.m. until the wee hours of the morning, I was phoning docs and nurses, a number of us were phoning and saying, you're on work quarantine, and explaining to them what work quarantine was.

Hospital officials and managers were aware of the importance of contacting staff and keeping them informed of what was happening. They sent updates via email, there was a press release and efforts were made to contact staff by telephone. Despite these efforts, many health workers told the Commission that they did not get notified about the outbreak but heard about it through colleagues or on the news. They had no idea what their risk was or whether they had put their family at risk simply by being at home.

One nurse who worked on the SARS unit reported that she was not contacted by the hospital to advise her about what was happening, and that she heard about it on the news on Saturday afternoon:

> And on that famous Friday, when we were all put into quarantine, more than half of us were not even called to inform us of the quarantine. So a lot of us exposed the community prior to finding out on the news. I never got called. I was driving, Saturday afternoon I was driving home and I heard it on the news. They just said there were too many people to call …

Even some of the nurses who worked on 4 West, an area that was of particular concern on May 23, were left out of the communication loop. On May 23, it became apparent that one of the key areas for potential exposure to SARS was the orthopedic floor on 4 West. That being the case, one would expect that the staff working in this area would receive priority in respect of focusing efforts at notification. But not all the nurses who worked in 4 West were notified of what was happening. In the all the rush and confusion of this frantic activity, an emergency procedure for which there was no plan and no experience, many of the nurses who had been working on 4 West but who did not happen to be working when the news broke in the hospital were not contacted. This meant that those nurses who were not contacted went about their normal day-to-day lives, in contact with their family and others, potentially putting them at risk, until they learned of the outbreak, to their surprise, through rumour or the media.

One 4 West nurse who had worked the week of the 19th recalled hearing about the outbreak on May 23 on the late-night news. She had not been feeling well and had gone to hospital that day but was sent home. She recalled having to call the hospital to find out what was happening:

> I saw on the news that my hospital had been closed, so I checked my temperature and it was 39, so I called my floor and one of the girls told me that a bunch of people I work with were already in emerg and I should go into our hospital, so I drove up to our hospital.

One nurse who had worked on 4 West on May 22, 2003, also recalled hearing about the outbreak on the news. She had worked without protection in the unit now known to the hospital and Public Health officials to be an area where there were previously unidentified cases of SARS. Despite her obvious potential exposure, no one contacted her to advise of her risk and to give her direction on what to do and how to protect herself and family. As she recalled:

> On the 24th, I heard the news at six o'clock in the morning, I heard the news about the SARS outbreak in North York. Anybody who was in from 13th to the 23rd, had been quarantined.

Another 4 West nurse who worked May 22, 2003, told the Commission that she learned about the outbreak when she went to work on May 24:

Question:	Do you remember when you went in on the 24th, do you recall if you aware that SARS was back by that point? Or did you learn about it when you went into work?
Answer:	Learned.
Question:	And how did you find out about it?
Answer:	I walked into the unit.

Another 4 West nurse who worked May 22 was not contacted and told about the outbreak until Monday, May 26, at which time she was told she had to go into quarantine. She told the Commission that no one from the hospital contacted her between May 22 and May 26, and that she heard about the outbreak from a colleague and from seeing it on the news.

One part-time 4 West nurse, who had worked the previous weekend, May 17 and 18, told the Commission that she did not know that the unit had been shut down until she went to work on Monday, May 26. No one had called her to tell her what was happening, even though she had worked on the unit that was believed to be the epicentre of the outbreak.

Toronto Public Health officials told the Commission that it was their understanding that the occupational health department would contact staff and communicate with them. As Dr. Berger told the Commission:

> Dr. Berger: What I recall, is that occupational health was notified, so the division around contacting, I don't know exactly how they did it, but the division was that Public Health would not deal with staff, but that would fall to the occupational health and safety department of the hospital, to follow the staff and communicate with them. Part of the whole press release also was to anybody who had been there, but the actual directives around what we were doing was given to the senior management team, of the SARS Senior Management Team, the senior admin at the hospital, so the chiefs of staff of every department were given all this information and then they had to take it and carry it to their various departments. They were responsible for passing those decisions on.
>
> Question: So, when you do go home at some point on the night of May 23rd, is it fair to say that in your mind, the job of contacting either sick health care workers or health care staff on 4 West was in the hands of the hospital?
>
> Dr. Berger: Yes.

Ms. Adamson, the CEO of the North York General, told the Commission that the hospital did begin to call staff that day and continued into the early morning hours, to tell them to quarantine themselves and to stay away from their families:

> It wasn't until later on in the afternoon, the latter half of the afternoon when Sue [Kwolek] called me to the boardroom, and it was realized that we had the staff, their illnesses were presented for 4 West, the patients from 4 West that were in question and we'd have to put everyone into

> quarantine. We were taken up to the other boardroom, the Ministry of Health people were on the phone. There was going to be a press conference at seven o'clock that I would need to attend to. It never happened, it was cancelled, so we began to do exactly as they told us to do, call everyone, everyone at home were quarantined. We began to communicate and that's when the greatest trauma for the staff happened. We were there until two o'clock in the morning trying to find people and had to leave messages if we couldn't find them. You would wake them out of their sleep and ask them to leave their families and children. We got back the next morning and just tried to continue to make sure people were safe and understood what they needed to do.

Despite these efforts by the hospital, vital information about their potential risk of exposure to SARS did not get through to many of the 4 West nurses.

The coordinator of the occupational health department was asked by the Commission to describe the process by which 4 West staff were notified of the outbreak:

Question:	And do you know what system was in place to contact staff who were not necessarily recorded in sick but were on their time off? For example the 4 West nurses?
Answer:	Well, we've got a whole list of the unit names, so we phoned everybody.
Question:	Did you call even those who were on their days off?
Answer:	Yes.
Question:	And was there a way to track to ensure everybody was contacted?
Answer:	Yes, we do it through occupational health.
Question:	And you made all those calls?
Answer:	Our staff did, yes.
Question:	So if there were a number of nurses who worked on 4 West who weren't notified until May 26th as to what

was happening at the hospital, was that something that just fell through the cracks?

Answer: That was the weekend?

Question: Right.

Answer: So, we probably didn't work until Monday and that's when we put people on home quarantine.

Question: So, then the calls started on the 23rd and whoever didn't get reached on the 23rd was left until the Monday?

Answer: Yes.

Question: If you were to do it all over again, was that … ?

Answer: We'd probably do it on Saturday.

Question: Yes.

Answer: And there was, I guess, there was no direction as to …

Question: Who was giving you direction on how this was supposed to be handled?

Answer: It would have been the SARS Committee.

When asked to explain how someone who worked on 4 West might not be contacted, she said:

Question: So if someone who worked on the 4th floor didn't get contacted, it was because it was the weekend and there was nobody was making those calls?

Answer: Yes, I have to go back and think about that.

Question: There aren't that many nurses on the 4th floor, so wouldn't the priority have been given to them?

Answer: It's more than nurses.

Question: Even if it's just the staff, how many staff on the 4th floor, 40, 50?

Answer: Maybe, I'm not sure.

Question: Maybe not even that many. Was priority given, did you know at that point that the 4th floor was really sort of the epicentre of the outbreak?

Answer: Well, no, I guess I didn't.

Question: So, who was being phoned?

Answer: The eight nurses that called in sick. But I know we came in on that weekend.

Question: But outside of the eight nurses, who was being phoned? That's what I am trying to get at. I'm not talking about eight nurses, I am talking about …

Answer: Nobody during that weekend, because we came in and we were trying to put contact lists together, because there were 13 ill patients and we were trying to match exposure, so that we could make those calls. So what was decided with Public Health is that this is an onerous task for one or two people to do and they felt that they would self-identify, and that's why they put them on home quarantine on Monday, because they were working on the weekend.

Question: Okay, some of them were working?

Answer: Some of them were working, yes. And the quarantine period would be approximately would be 10 days, 11 in one case, I think. So, Public Health said they would self-identify, so when we went up Monday, we went to the unit, we spoke to the nurses and said, you are all going home on home quarantine. And that was a decision made by the SARS Task Force and so everybody agreed to that. They staffed the unit with agency nurses. We called every day to make sure they didn't have any signs and symptoms, if they did, they were admitted. If they came into emerg, they were assessed and admitted or sent home or whatever.

Question: These are nurses on home quarantine?

Answer: Yes.

Question: Just so I am clear, the 23rd, the calls you made were to the eight …

Answer: Just to those eight that they said bring in, because they didn't know.

Question: Okay, fair enough. But on the 23rd, eight ill nurses were called, did anybody call or think to call the rest of their colleagues on those days?

Answer: I think [the unit administrator] may have. I think she did but, I can't answer that. But I didn't.

Question: Certainly there was no process in place to ensure that was done, to your knowledge?

Answer: No.

The lack of any such process, the systemic failure to have such a process in place, is unacceptable and indeed appalling.

Toronto Public Health told the Commission that they understood that the 4 West staff would be contacted. Senior hospital officials told the Commission that they understood that staff were being contacted. The occupational health department understood that the unit manager was contacting staff and that ill staff would self-identify. And the nurses remained in the dark.

This is not to blame those working in the occupational health department. As the above testimony shows, they lacked direction and clarity over who was to be called and what those called were to be told. They were working hard over the weekend trying to identify exposure and contacts for those who were ill. As noted earlier in this report, the unit administrator was unable to be interviewed by the Commission and so has been unable to shed any further insight into why not all of the 4 West nurses were contacted.

What is clear is that there was no consistent approach to contacting staff and that no consistent message was provided to staff. Whatever confusion was present at the time, whatever challenges communicating with staff presented, it is difficult to understand how the 4 West nurses and health workers could not all be contacted and how such a critical task could be left as it was. By the afternoon of May 23, 2003, it was clear there was a big problem with illness among staff, patients and visitors. The 4 West nurses were at the greatest risk for possible SARS exposure and many of them were already ill. The 4 West nurses, all of them, whether they were working or not, ill or well, were entitled to know that they could be at risk so that they could take steps to monitor their own health and to ensure the well-being of their families.

The horror stories of front-line staff – those health workers who learned about the outbreak on May 23, 2003, and wondered if they should have known sooner; those health workers who scrambled to use precautions, who worried about whether they had the right equipment and if they were using it properly; those health workers who learned about the outbreak from television and then had to wonder if they had just exposed their family to SARS; those nurses who were brought into the hospital on May 23, 2003, having no idea that they were going to be assessed for SARS and admitted and then lying in isolation, wondering if their families were safe – are undeniable.

Post-SARS, it is essential that the lessons learned from the terrible stories of these brave health workers be used to ensure that these communication breakdowns never happen again. It is essential that a system be put in place in all hospitals to ensure that front-line health workers directly at risk from a recently discovered infectious outbreak are informed in a timely fashion of what they need to know to protect themselves, their families and the community.

It must be clear who bears the responsibility for notifying staff at the earliest possible opportunity. There must be a clear plan to effectively communicate risk without delay. There must be clear lines of authority, clarity around roles and responsibilities, and an understanding among all managers and supervisors as to what information must be conveyed to staff, such as their risk and how to protect themselves and their families. Hospitals must have up-to-date contact lists for staff, and as part of their emergency preparedness there should be a clear plan to let staff know how they can expect to be informed about what is happening in the hospital and how those at risk will be notified and protected.

Conclusion

After the second outbreak was discovered, front-line staff, managers and administrators mobilized to provide care to SARS patients, including their colleagues. Whether they were angry, disappointed, exhausted or afraid, they stepped up and did what had to be done to contain SARS. As one doctor said:

> What went right: in a situation where so little was known and when you are in the midst of it, so very little was known, was that the people who were involved, right across the board, the ones that were going to step up, you knew who they were and they did so. And they did so in an open manner and knowing as we went along that it was not without risk. And I'd say the people who were going to step up, it was right across the board because it went on and on, they were a smaller group of people involved in stepping up and are then consistently stepping up. But that's a reflection of professionalism, of human nature.

Another doctor agreed that the response of North York General to the second outbreak was one of the things that went right:

> What went right is how North York General responded to SARS II. They quickly shut the hospital down and contained what could have been a really truly devastating epidemic. And that's something that I believe was the right thing to do. They did the right thing and it was a big step. They altered a lot of how they affect and contained infection. We had a complete revamping of our emergency department and negative pressure rooms and directives of how to deal with suspected infectious diseases.

Another doctor said that when the hospital knew it had SARS cases or that SARS was around, it did a superb job:

> I've got to tell you, apart from my comments which are somewhat negative, North York did a superb job in every other way. In fact, I can tell you, it's the best job I've seen amongst all the hospitals. Superb job, in terms of training, outfits, and the communication from the staff meetings and the physicians and the administration. They did a superb job.
>
> During the first outbreak and the second outbreak … North York General did a great job. During those times when we believed as a community, as Canadians, that SARS was around, North York General did a great job.

Since SARS, the hospital has made improvements to many important areas, including infection control, occupational health and safety and communication with staff. Many health workers interviewed by the Commission pointed to improvements in these areas and say that they feel the hospital has learned many important lessons from SARS and, as a result, it is now a much safer place to work.

Ms. Adamson told the Commission that the hospital did learn many lessons from SARS and they have implemented many of the lessons:

> Many of the lessons learned from SARS are being implemented right now and we are better prepared to deal with SARS if it should happen again; better positioned to handle new infections or new permutations of existing diseases. We have already made significant changes based on the knowledge gained from SARS. A sophisticated patient screening and triage system in our emergency department is one example of how we are moving forward from SARS ensuring that we continue to provide a high level of protection for patients, staff, volunteers and visitors entering our hospital. We've increased the number of isolation rooms with improved ventilation. We have tripled the size of our infection control team and continue to recruit. We've expanded educational programs in infection control for our staff, including instructions on CD-ROM. We now have the capacity to establish an assessment clinic quickly. Our occupational health policy is now more stringent. We are actively improving communication with our staff, increasing management visibility and accessibility and implementing a new participative committee structure.

North York General should not be remembered for the tragic mistakes and errors that took place there during SARS as a result of a province-wide failure to ensure appropriate standards and systems for infection control, worker safety, and communications and accountability.

North York General Hospital should be remembered not for those system-wide errors and mistakes but for the skill, devotion and remarkable courage, as described in this report, of the physicians, nurses, and other health workers and members of the hospital community who gave so much of themselves to help those afflicted with SARS.

Ministry of Labour Sidelined

Introduction

The Ministry of Labour was sidelined during most of SARS. Despite its legal mandate to protect workers, the Ministry was excluded from the higher echelons of the government's response to SARS. No one thought to make the ministry an integral worker safety component of Ontario's SARS response. Ministry safety officials were largely excluded from information links. A senior Ministry safety official found it quicker to go to the nurses' union to get a SARS directive than it was to penetrate the information barriers within government.

After the Sunnybrook disaster on April 13, when nine workers got sick after they did everything they were told they needed to do to be safe, the government called in experts from the Centers for Disease Control and Prevention (CDC) without informing the Ministry of Labour's experts whose job it was to prevent such future safety lapses.

It was only in June, towards the end of SARS, that the Ministry of Labour picked up on its responsibility to ensure N95 respirator use, training and fit testing in hospitals. In hindsight it is clear that the Ministry could have done more, that it could have reminded the hospitals in March of their legal obligation to train and fit test nurses, physicians and other health workers for the N95. It is clear that the ministry in April and May had the capacity to do what it finally did in June by way of proactive safety work with SARS hospitals.

Nurses, with good reason, expected the Ministry of Labour to be more aggressive in its mandate to protect health workers. Although it is puzzling why the Ministry did not act sooner, the answer may lie in its exclusion from the central SARS command, its sad lack of depth in health safety resources, a questionable 1984 government protocol that kept it physically out of hospitals during any infectious outbreak, its assumption that the health system had the resources and expertise to protect its workers, the sharp cuts during the 1990s in its capacity to protect health workers, and the deep resentment of some hospitals which regarded the Ministry as an unwelcome interloper on hospital turf. It would be speculation to ask whether earlier intervention by Labour could have presented worker illnesses and deaths. It would be speculation to wonder what might have gone better if the Ministry of Labour from the beginning had been able to rise above these limitations, to flex its muscles and push its way on to the turf of those entrusted by the government with its response to SARS.

Ontario's worker safety system needs a tune-up to ensure that the Ministry is not sidelined the next time we are hit by something like SARS. Workers are entitled to better safety enforcement than they got during SARS from the Ministry of Labour. Worker safety requires an independent inspection and enforcement arm and in Ontario, the Ministry of Labour is that arm. The public is entitled to expect that the government's worker safety arm will be more aggressive next time in its protection of workers. Improvements since SARS have put the Ministry in a much better position to protect workers in the next outbreak. But the turf resentments against the Ministry still remain in hospitals and in the Ontario's health system. Those turf barriers have to be torn down.

The Ministry of Labour Before SARS

SARS found a Ministry of Labour that was poorly resourced and ill prepared for a public health crisis. Its contingent of physicians had been sharply reduced since 1992, when it had 19 physicians. By 1996, they were down to three and one half. It no longer had a laboratory, or air-sampling technicians. Its occupational health and safety nurses had been laid off in the 1990s.

Most inspectors had little or no training on infectious disease issues. None of the inspectors interviewed by the Commission said they had ever conducted an infectious disease-related inspection of health care facilities before SARS.

As a senior ministry official told the Commission, the Ministry had little internal expertise in infection control:

> The Ministry did not have, until April of this year, people with specific public health experience working, or people with specific communicable disease experience. Actually, I'll correct that a little bit. We had occasionally some inspectors who were nurses with experience in the field and we also had … during SARS, at that time, we would have had people with specifically communicable disease or infectious disease experience.

The Ministry of Labour's Role During SARS

The Ministry of Health led the response to SARS. Labour was given a secondary role, providing:

> … advice and support to the emergency response with respect to occupational health and safety issues.

The Ministry of Labour set up an internal command centre. It established a protocol on how Ministry staff would respond to SARS-related worker complaints and work refusals. It assigned an occupational health physician to the Science Committee. It posted information on its website. And it participated in teleconferences with unions, hospitals and the Ministry of Health.

As noted in Table 1, prepared by the Ministry, it also investigated worker complaints and work refusals. In all, the Ministry investigated 54 work refusals during SARS, including 18 by workers in the health sector.[768] Beginning on June 12, 2003, it conducted a series of proactive inspections of some SARS hospitals.[769]

Table 1 – Summary of Ministry of Labour Responses During SARS[770]

Date of Communication	Nature of Communication	Event Location	MOL Response
24 March 2003	Complaint	The Scarborough Hospital	Complaint received, handled by an inspector
25-26 March 2003	Inquiry	City of Toronto – Ambulance	Handled by phone by medical consultant
31 March 2003	Inquiry	Healthcare Health and Safety Association	Handled by phone by medical consultant
2 April 2003	Work refusal	TS Tech	Reported as work refusal – clarified as inquiry only

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[768] Ministry of Labour, Submission to SARS Commission, March 15, 2006, p. 16

[769] For a complete overview of the Ministry of Labour's activities during SARS, the reader is invited to review its submission to the SARS Commission's public hearings. The submission is available on the Commission's website at the following location: http://www.sarscommission.com/hearings/04Mon.Nov.pdf/Mon_12_00_MOL.pdf

[770] Ministry of Labour, Submission to the SARS Commission, March 15, 2006. The Ministry said: "The following table provides a brief summary of SARS related communications received by the MOL during the outbreak, the nature of the communication and the MOL response."

Date of Communication	Nature of Communication	Event Location	MOL Response
3 April 2003	Inquiry	Hilltop Retirement Home	Closed by Public Health – MOL notification
3 April 2003	Work refusal	Ellis Don/Southlake	Field visit report
4 April 2003	Work refusal	Ellis Don/Southlake	Field visit report
7 April 2003	Complaint	DC Diagnosticare	Handled by phone by MOL provincial specialist
8 April 2003	Inquiry	The Scarborough Hospital	Handled by phone by medical consultant
8 April 2003	Work refusal	Canadian Waste Services	Field visit report
27 May 2003	Complaint	North York General Hospital	Handled by phone by medical consultant
1 June 2003	Complaint	North York General Hospital, St. Michael's, & Mt. Sinai	Teleconference
2 June 2003	Work refusal	Thyssen Krupp Elevator	Field visit report
6 June 2003	Work refusal	North York General Hospital	Teleconference
7 June 2003	Work refusal	North York General Hospital	Field visit report
9 June 2003	Work refusal	North York General Hospital	Field visit report
10 June 2003	Complaint	St. Michael's	Field visit report
11 June 2003	Work refusal	Sayers & Associates	Field visit report – delivered verbally June 19 – handled by MOL manager
12 June 2003	Proactive	St. John's Rehab	Field visit report
12 June 2003	Proactive	Lakeridge Health – Oshawa	Field visit report – teleconference
12 June 2003	Complaint	Hospital for Sick Children	Handled by medical consultant – referral to MOH
12 June 2003	Complaint	Mount Sinai	Mt. Sinai reported no issues – field visit deferred pending worker complaints
13 June 2003	Proactive	Scarborough General	Field visit report
16 June 2003	Work refusal	City of Toronto – Ambulance	Field visit report
16 June 2003	Proactive	William Osler Health Centre	Field visit report
20 June 2003	Complaint	Toronto General Hospital	Field visit report
20 June 2003	Complaint	Lakeridge Health – Oshawa – nurse	Referred to mgmt & JHSC – handled by MOL manager

20 June 2003	Complaint	Lakeridge Health – Oshawa – pathology	Referred to mgmt & JHSC – handled by medical consultant
20 June 2003	Inquiry	William Osler Health Centre	Handled by phone by medical consultant
24 June 2003	Complaint	City of Toronto – Ambulance	Field visit report
24 June 2003	Work refusal	Sayers & Associates	Field visit report – handled by MOL hygienist
26 June 2003	Proactive	Sunnybrook	Field visit report
27 June 2003	Proactive	Toronto East General	Field visit report
4 July 2003	Proactive	Southlake – Newmarket	Field visit report
10 July 2003	Work refusal	City of Toronto – Ambulance	Field visit report
14 July 2003	Proactive	Rouge Valley Health Systems	Field visit report

The Ministry of Labour also continued to carry out its duties and responsibilities in other sectors. It told the SARS Commission:

> The outbreak of SARS required the Ministry of Labour to apply considerable resources to deal with the emergency while continuing to carry out its inspections, investigations and enforcement activities in all sectors across the province.[771]

Perspective of Representatives of Health Care Workers

Representatives of health workers were highly critical of the Ministry of Labour's response to SARS.

They said it failed to enforce safety laws; recognize the health sector's lack of expertise and awareness on N95 respirators, fit testing and other worker safety issues; ensure directives were consistent with laws and regulations and safety best practices; and respond to workers' concerns.

In their joint submission to the Commission's public hearings, the Ontario Nurses' Association and the Ontario Public Service Employees Union said:

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[771] Ministry of Labour, Submission to the SARS Commission Public Hearings, November 17, 2003, p. 9.

> The large number of HCWs [health care workers] who became ill with SARS as a result of workplace exposures should have led to an investigation by the MOL. If that many industrial workers suddenly developed a life-threatening work-related illness, both unions believe that the MOL [Ministry of Labour] would have launched investigations immediately. The illnesses were constantly in the media, as were reports of shortages of equipment, including respirators.[772]

Ministry of Labour Excluded

Despite its legal mandate to protect workers, the Ministry of Labour was not given a role during SARS commensurate with its statutory duties. No one thought to make the Ministry an integral component of Ontario's SARS response. This systemic problem demonstrates how little the health system was aware of, and how little it understood, Labour's role and expertise.

There are many examples of this.

When a senior Labour expert tried to participate in Provincial Operations Centre (POC) deliberations, he was effectively invisible. He told the Commission:

> I went to the Provincial Operations Centre on several occasions to try and participate … They were in charge, and they were running the show themselves, and that's the way it was.

When the Provincial Operations Centre issued directives, the Ministry of Labour had no oversight over worker safety content. As a senior Labour official told the Commission:

> The Ministry of Health was running the directives. They were their directives.

When POC directives were issued, senior Ministry of Labour staff had trouble getting copies. One official said he often had to get copies from contacts at health worker unions or at other agencies. He told the Commission:

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772. ONA/OPSEU joint presentation to the SARS Commission Public Hearings, November 17, 2003, p. 28.

> What were we supposed to do? We don't have any information. We can't get any information from the Ministry of Health. We are not getting any directives. How do we get the directives?

When West Park Hospital's old TB unit was reopened in late March 2003, the Ministry of Labour was not notified or consulted, even though it knew first hand the old TB unit's shortcomings and had the expertise to try to mitigate them.

When the Centers for Disease Control and Prevention (CDC) was asked to investigate the infection of nine health workers at Sunnybrook on April 13, no one thought to ask Labour to participate. The Ministry didn't even know an investigation was underway.

When the Ministry of Health set up a restricted access website containing technical SARS information, Labour was not informed until long after the fact. Health unions got access to the site weeks before the ministry.[773] Labour didn't find about it until "late April or May," a senior Ministry official told the Commission.

When the Ministry of Labour provided one of its occupational health physicians to the Science Committee,[774] he attended, not as a representative of the Ministry, but as a researcher. A senior Ministry official told the Commission:

> He was there as a scientific professional. He wasn't there representing the views of the Ministry of Labour. He was there as our contribution, as a scientific professional, to the SARS Science Committee. He experienced a lot of frustrations.

When the Science Committee met to discuss respirators on April 9, 2003, Labour sent a leading expert to make a presentation. As an indication of his reputation, he sat on the respirator committee of the Canadian Standards Association (CSA). Instead of being welcomed as someone with high-level expertise from the Ministry with

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[773] ONA-OPSEU joint presentation to SARS Commission Public Hearings, November 17, 2003, p. 6.

[774] Ministry of Labour, Submission to the SARS Commission Public Hearings, November 17, 2003, p. 12:

> The Ministry of Labour physician in collaboration with the other members of the Science Group contributed infection control advice for the protection of workers, and provided advice regarding the requirements under the Occupational Health and Safety Act and the regulations for worker health and safety in the health care sector. He was also active in gathering scien-

primary responsibility for protecting workers, he was treated as an outsider.[775] The Ministry of Labour official said:

> I was a visitor. I just listened.

Not only was Labour sidelined, but it also assumed that Health – the lead ministry during SARS – and the health care system it oversaw had the resources, expertise and knowledge to protect nurses, physicians and other workers. The ministry told the SARS Commission that it had:

> … an expectation that the health care sector was itself equipped to control the hazards.[776]

A senior Ministry of Labour official told the SARS Commission:

> The resources and the expertise in terms of infectious disease control don't reside in the Ministry of Labour. We don't have what the health care system has. We don't have what the public health officials have. So, I mean, it doesn't surprise me that we would say, that's fine. The Ministry of Health has got access to international experts. In other cases, and I've had rock bursts in a mine that killed people. And who's got the lead there? It's not the Ministry of Health, it's the Ministry of Labour, and we have our rock engineers. We hire international experts that come in. Health did the same thing here. So when we ran into issues, they brought in infectious control disease experts from various other institutions in the province, from other jurisdictions to help them deal with it, and that's what I would expect it to be.

In hindsight, we can see that this assumption was flawed, and that the health system was woefully weak in worker safety expertise and resources. This assumption worked hand in glove with Labour's exclusion from the higher echelons of the SARS response to limit its response. To the extent that Labour was sidelined, its ability to determine within government whether its assumptions about the health system were valid was reduced.

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[775] Minutes of the Epi Science Group, April 9, 2003, p. 2

[776] Ministry of Labour, Submission to SARS Commission, March 15, 2006, p. 17.

Ministry of Labour Took a Reactive Approach

During SARS, the Ministry of Labour focused on responding to complaints and work refusals.

The Ministry told the Commission:

> The MOL strategy during the SARS outbreak consisted of responding to complaints and work refusals on a priority basis to ensure that the most up-to-date standards for the protection of workers from SARS were in place.[777]

At the Scarborough Grace Hospital, Labour received complaints from nurses' representatives by telephone in late March 2003. The Ministry told the Commission:

> On March 24, 2003, the Ministry received the first complaint relating to SARS from a worker representative regarding management's response to the hospitalization of health care workers at Scarborough Hospital – Grace Division. The complaint was assigned to an inspector who contacted a Ministry physician who in turn telephoned the hospital on March 24 advising both the Director of Occupational Health and Safety and a Human Resources representative about the requirements under the *Occupational Health and Safety Act* to notify the Ministry of Labour of occupational illnesses. In addition the Ontario Nurses Association was contacted. The Ministry physician also discussed infection control measures with the hospital. The Ministry of Labour physician was told that they were receiving assistance from both Toronto Public Health and Mt. Sinai Hospital and were also in contact with Health Canada.
>
> On March 25, 2003, the Ministry of Labour physician spoke with a Toronto Public Health physician who confirmed that Toronto Public Health was attending at the Scarborough hospital to assist with infection control measures. On March 26, the physician from Toronto Public Health also confirmed that Toronto Public Health was investigating health care workers exhibiting SARS symptoms.[778]

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[777] 777. Ministry of Labour, Submission to SARS Commission, March 15, 2006, p. 19

[778] 778. Ministry of Labour Submission to SARS Commission public hearings, November 17, 2003, pp. 9-10.

When the Ministry of Labour was contacted by a worker at North York General on May 27, 2003, four days after the second phase erupted, the ministry took the same approach as it had taken at the Grace two months earlier:

> On May 27, 2003, a Ministry of Labour physician was contacted by a worker at North York General Hospital who raised a concern about infection controls in the emergency department. The Ministry of Labour physician, after contacting a North York General Hospital occupational health representative, contacted the Director of Communicable Disease at Toronto Public Health regarding this concern. The Ministry of Labour physician was advised that Toronto Public Health was aware of the concern and their inspectors were in the hospital doing contact tracing. The Ministry of Labour physician specifically requested that the inspectors attend at the emergency department to review the worker concerns which had been communicated to the Ministry of Labour. Toronto Public Health agreed to do so.[779]

This reactive approach does not reflect on Ministry staff, who responded to the complaints at the Scarborough Grace Hospital, at North York General and at other workplaces, and simply followed Ministry protocols. But it does reflect a systemic problem in the Ministry of Labour.

At the Scarborough Grace and North York General, Labour had, in effect, deferred its worker safety responsibilities to others. It did this under a 1984 Memorandum of Understanding with the Ministry of Health that established:

> … lines of responsibilities where there are suspected outbreaks of infectious diseases in workplaces. This agreement provides that the Ministry of Labour has a general responsibility for investigating hazards in a workplace under [OHSA] and the local Medical Officer of Health has responsibility for the identification, investigation and control of outbreaks of communicable diseases. It also provides that where the local Medical Officer of Health has responsibility for the investigation and control of an outbreak, the Ministry of Labour will assist.[780]

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[779] Ministry of Labour Submission to SARS Commission public hearings, November 17, 2003, p. 11.

[780] Ministry of Labour Submission to SARS Commission public hearings, November 17, 2003. p. 9.

The 1984 agreement was unauthorized by statute, unclear, not disseminated to interested parties like the unions, and arguably illegal to the extent that it might require Ministry personnel to fetter their discretion and so fail to fulfill their duties in workplaces affected by infectious diseases.

A former senior Ministry official said:

> The first goal is to contain the outbreak and recover, just like it is in any other emergency. The Ministry of Labour doesn't wade in there and start doing their proactive inspections. We let the emergency workers make it safe and then we'll go in and do our investigations and stuff.

SARS revealed a major flaw in Labour's interpretation of the 1984 agreement.

The Ministry assumed that among the myriad tasks on public health's plate during SARS, from contact tracing to deciding whether to close the hospital, it also had the resources, expertise and capability to give worker safety the same level of attention as the ministry whose primary responsibility it is. It is Labour's job to make sure workers are safe. It cannot, and should not, assume that another agency, whether it is a public health unit or the Ministry of Health, can take over that role, or has the capability to do so.

The idea behind the 1984 agreement was sound: Before a crisis, set out the separate roles and responsibilities of the Ministry of Health, public health and Labour so they can better cooperate during a crisis.

What was not sound, and what must be avoided in the future, was the idea that an agreement meant the Ministry of Labour could defer to another agency the primary responsibility for ensuring that workplaces are safe.

Proactive Inspections Came Late

On June 12, 2003, when the outbreak was on the wane, the Ministry of Labour began conducting proactive inspections of SARS facilities. It told the Commission:

> On June 12, the Ministry initiated a series of consultations at other health care facilities that were identified as having a risk of SARS transmission to their workers. The health care facilities were categorized based on potential SARS exposure. The facilities were listed as Category 0 to 3,

> with Category 0 being hospitals with no known cases of SARS. During these consultations the Ministry reviewed infection control precautions, use of respirators and respirator fit testing and the function of the internal responsibility system. As a result of the consultations and complaints, a total of 16 orders were issued under the *Occupational Health and Safety Act* and regulations to five of ten health care facilities[781] ... The orders included undertaking risk assessments and providing and fit testing respirators to all health care workers in high-risk areas. No violations of the *Act* or regulations were found in five of the institutions.[782]

Although it is puzzling why the ministry did not act sooner, the answer may lie in its exclusion from the central SARS command, its too long held assumption that the health care sector was able to protect its workers, its reliance on the 1984 agreement, and its emphasis on a reactive approach.

Regardless of the reasons, the bottom line is that no proactive inspections were conducted during virtually all the outbreak. There were no proactive inspections of SARS hospitals in March 2003, or in April 2003, or in May 2003, even though health workers continued to get sick during each of those months and inadvertently infected colleagues, patients and members of their households. That more and more health workers were getting sick was not a secret. One only had to read the newspapers, watch television newscasts or listen to the radio. As each month passed, the widely available evidence mounted that health workers were not protected and that the system in charge of the SARS response was unable to safeguard them. Yet the Ministry did not act proactively. In April and May it had the capacity to do what it finally did in June by way of proactive safety work with SARS hospitals. This was a missed opportunity, although we will never know what impact that might have had on the SARS response.

As noted earlier, Labour's approach was vastly different to what occurred in British Columbia. When a nurse contracted SARS at Royal Columbian Hospital, the Workers' Compensation Board made five inspections at the hospital to make sure workers were protected.[783]

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[781] In contrast, the Workers' Compensation Board in B.C. made 19 separate inspections of nine medical facilities, predominantly acute care hospitals between April and July 2003. Only one order was issued, related to N95 respirator fit testing, and it indicates the depth of worker safety culture in B.C. Source: WCB Communication with SARS Commission, September 13, 2006.

[782] Ministry of Labour, Submission to the SARS Commission Public Hearings, November 17, 2003, p. 16.

[783] Focus of WCB inspections included officer evaluations of:

In B.C., the workplace regulator regarded the incident at Royal Columbian as an urgent signal that it had to make sure workplaces were safe. In Ontario, the Ministry of Labour missed the opportunity to respond to the many red-flag indicators that workers were not being protected.

It cannot be proven that health workers caught SARS because the Ministry of Labour did not conduct proactive inspections. What can be said, however, is that in B.C. only one health worker got SARS in a jurisdiction where the workplace regulator aggressively conducted proactive inspections beginning in early April 2003.

British Columbia provides a useful example of how well things can work and how well health workers can be protected when there is a strong safety culture. It provides an example of how things can work and should work in Ontario.

Improvements Since SARS

Since SARS, the Ministry of Labour has acted on many of the lessons from SARS, and it is to be commended for this.

Since SARS, it has made a significant effort to address its resource and expertise weaknesses, including hiring 200 more inspectors and developing sufficient in-house health care expertise. It has adopted a more assertive, proactive approach to workplace safety in general, and to the health sector in particular. A case in point was a series of proactive inspections of health facilities in late 2003 and early 2004. As the Ministry of Labour said in a submission to the Commission:

> Inspectors issued orders for a variety of contraventions related to infection control including the notifications of occupational illness, Workplace Hazardous Information System (WHIMS), operation of joint health and safety committees, training, ventilation, storage and handling of

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- The status of exposure control plans related to SARS and the appropriate control measures necessary for the protection of workers potentially exposed to the unidentified agent responsible for SARS.
- Written policies and procedures specific to the exposure control plans,
- Implementation of these policies and procedures,
- Worker education and training,
- Use of personal protective equipment, particularly on respiratory protection for those workers potentially exposed to the unidentified agent via airborne droplets

Source: WCB Communication with SARS Commission, September 13, 2006.

> materials, risk assessment of needlestick/sharp injuries and the use of safety engineered medical devices, handling of waste materials, appropriate use of refrigeration units and the use of personal protective equipment.
>
> All 192 acute care facilities in Ontario were visited and 2,172 orders were issued.[784]

Further proactive inspections in health care continued afterwards. If all proactive inspections undertaken are included, a total of 6,008 orders were issued by Ministry inspectors in the health care sector for the period 2003 to 2005.[785]

The Ministry has also hired six inspectors dedicated to the health care sector. The Ministry said it:

> … wants to ensure that it has additional staff with the knowledge and experience required to deal with emerging issues such as SARS, pandemic influenza, avian influenza, and other outbreak situations in the health care and other sectors.[786]

There are also signs of better cooperation between the Ministry of Labour and the Ministry of Health.[787]

The Ministry of Labour told the Commission:

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[784] Ontario Ministry of Labour, Submission to the SARS Commission, March 15, 2006, p. 21

[785] Ontario Ministry of Labour, Submission to the SARS Commission, March 15, 2006, p. 23

[786] Ontario Ministry of Labour, Submission to the SARS Commission, March 15, 2006, p. 21

[787] It is useful to note that Dr. Sheela Basrur, the Chief Medical Officer of Health, has taken steps to improve this situation. Only time will tell if these steps are effective. She notes in her letter of March 9, 2006, to Ms. Linda Haslam-Stroud, RN, President Ontario Nurses' Association

> We recognize the need to ensure that the perspectives of occupational health and infection control receive consideration. In light of this, an occupational health physician is included in the membership of PIDAC (PIDAC is the Provincial Infectious Diseases Advisory Committee) and has been sitting on the committee since the inception of PIDAC in 2004. However, we see the importance in continuing to strengthen our links with the occupational health field and a physician delegate from the Ministry of Labour is now also sitting on PIDAC. This highlights our commitment to ensuring that occupational health and safety expertise is brought to the table during all PIDAC deliberations now and in the future. We are confident that building on this approach will assist in ensuring stronger linkages between occupational health and infection control on matters of science.

> The Ministry wishes to advise that it is sharing the services of three of its experts in infection control and prevention in occupational health and safety with the Ministry of Health and Long-Term Care (MOHLTC) as MOHLTC lacks the requisite expertise and/or experience … [788]

Conclusion

The evidence reveals widespread, persistent and ingrained failures by the health care system to comply with, and by the Ministry of Labour to enforce, Ontario's safety laws, including the *Occupational Health and Safety Act* and Ontario Regulation 67/93, Regulation for Health Care and Residential Facilities.

We must do better next time. The only way to do better is to ensure that the Ministry of Labour is in a position to oversee and enforce, as aggressively as required, Ontario's safety standards. The only way to do this is to break down the turf barriers that prevented this during SARS and to promote in our health system a safety culture that applies the precautionary principle that action to reduce risk need not await scientific certainty.

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788. Letter from the Ministry of Labour to the SARS Commission, August 23, 2006.

June 13 Cancellation at Mount Sinai Hospital

Introduction

Allegations of political interference ran high on June 13, 2003, when the Ministry of Labour cancelled an urgent safety meeting under the *Occupational Health and Safety Act* to investigate worker safety complaints at Mount Sinai Hospital and to avert a possible walkout by nurses.

The Ministry's motivation to back off from safety enforcement at Mount Sinai remains unclear to this day. Also unclear is the process by which the decision was made and even the identity of the officials who made the decision. This section will deal with three questions:

- What happened?
- Was there political interference?
- Why was the meeting cancelled?

The Commission investigated this allegation in detail because, in all the rumours and suspicions around the SARS crisis of 2003, it is the only concrete allegation of political interference.

Rumours and Allegations

Rumours abounded that the meeting was cancelled because of political pressure at the behest of the Premier, or the Minister of Labour, or the Deputy Minister of Labour, or someone in government above them, or Mount Sinai. A nursing union representative thought it was one of the first three. She told the Commission:

> [The circumstances of cancellation] clearly indicate that problems around the Ministry of Labour not enforcing the Act are coming from above the director level. So it's either from the Deputy Minister's office,

> from [the Premier's] office, or from [then Labour Minister] Brad Clark's office, so there's only three offices that it could be coming with.

A Ministry of Labour employee thought it was the hospital itself:

> … and my understanding was that the next place to meet with people was going to be at Mount Sinai. My recollection at the time was that we just got told to back off, and the rumour going around, and all I can say is that what I heard at the time is that the CEO at the hospital called somebody at 400 Bay [Ministry of Labour head office] and said back off, and we backed off … Everybody seemed to be running scared of the hospitals.

The concrete allegation, although hearsay, came from a reliable confidential source:

> […] told me that … [the] CEO of Mount Sinai called Tony Dean and said we don't have a problem so cancel the inspection. Tony Dean called [Deputy Minister] Paavo [Kivisto] and said cancel it.

Intervention by Mr. Dean, the Secretary of Cabinet, to cancel a statutory safety investigation at the behest of a hospital would raise serious issues of improper interference with worker safety procedures mandated by the *Ministry of Labour Act* and the *Occupational Health and Safety Act.*

The investigation of this allegation is set out in detail below.

The purpose of the aborted June 13 meeting was to avert a threatened walkout by Mount Sinai nurses who were concerned about personal protective equipment, lack of respirator fit testing and other practices they considered dangerous to their safety. One observer said:

> People were really scared there.

On June 11, Andy Summers, the Ontario Nurses' Association (ONA) union representative at Mount Sinai, sent an email to the ONA advising that he had held three meetings with Mount Sinai CEO Joseph Mapa and that he had told Mapa that the lack of action on fit-testing issues had forced Summers to support a work stoppage:

> I informed him that the three weeks of promising mask testing and to this date not one nurse tested, has forced me to provide all nurses with the necessary tools and support to institute a work stoppage … and I would be contacting every one of my members via mail to give them information and instructions to do so …[789]

The ONA brought these concerns to the attention of the Ministry of Labour and in particular of Dr. Leon Genesove, the Provincial Physician, who described the nurses' concern:

> … a big concern that the staff of Mount Sinai Hospital, that nurses represented by ONA may walk out of the hospital. It came to the attention of the Ministry of Labour and I was asked if I could address the concerns. I spoke to people – I had been speaking to Erna Bujna, and I was also speaking with the president of ONA at the time. And there were lots of concerns from the staff about respirators and infection control issues and infection.

Dr. Genesove also described the Ministry's response:

> What we agreed to then [was] that they, the ONA president, would advise their staff not to walk out and the Ministry of Labour would conduct an investigation. So what I arranged for is a Ministry of Labour inspector and myself, or Dr. Lillian Wong, the Ministry of Labour inspector and myself, we would meet with the Mount Sinai people off-site and deal with the issues. So we're going to have the Ministry of Labour inspector and myself, a management representative from the hospital and worker representatives from the Joint Health and Safety Committee. So we agreed to that, and I reported back to my director, Ed

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[789] This is a convenient place to note that Mr. Mapa, the Mount Sinai CEO, recalled no such conversation:

> I don't recall that, union representatives come into my office all the time. It could have happened, but no.

Neither did he recall anything about the cancelled meeting, nor did Leslie Vincent, the Mount Sinai senior VP of nursing. They both thought they would have recalled any suggestion of a work stoppage and a meeting to deal with the threat of a work stoppage. Without finding against Mr. Mapa, it is clear from other evidence that the possibility of a work stoppage was brought to his attention and that the hospital was formally notified of the meeting that was to take place on June 13.

> McCloskey. He had told me about the potential walkout, and so it ended up being scheduled for two days after the telephone conversations.

June 13 at 11 a.m. was the time scheduled for the meeting of the Ministry of Labour, Mount Sinai officials, union officials and representatives of the hospital's Joint Health and Safety Committee. The Ministry did not want its inspectors to go physically into the hospital because possible SARS exposure might force them into quarantine and make them unavailable to carry on their work. It was a common practice for the Ministry, in urgent situations when it was difficult or dangerous to meet in the worksite, to meet offsite, and it was therefore arranged to have the meeting at the downtown Marriott Hotel. Although the meeting was not to be physically in the hospital, it was still a formal field visit under the provisions of the *Occupational Health and Safety Act* and under the safety regulations for health care facilities.

The Ministry, on the afternoon of Thursday, June 12, in an internal email, confirmed the meeting for the following morning at 11:00:

> From: Grier, Stephen (MOL)
> Sent: Thursday, June 12, 2003 2:51 PM
> To: Rae, Robert (MOL); Wong, Lillian (MOL); Genesove, Leon (MOL); Ward, Ian (MOL); Walker, David (MOL); Fliegl, Anna (MOL); Baker, Murray (MOL); Boeswald, Joe (MOL); Kwok, Steve (MOL)
> cc:
> Subject: Proactive Meetings with Hospital Personnel
>
> The following proactive meetings have been arranged with hospital staff to address the issue of worker health and safety as it pertains to SARS.
>
> **Mt. Sinai Hospital**
> Meeting will take place at 11:00 am on Friday, June 13th 2003 at the Marriott Hotel (Eaton Centre) in the Carlton Room. Arrangements have been made with the hospital's Director of Occupational Health & Safety, Mary Anne Adams, for the cochairs of the JHSC and an ONA representative to be present. Further employer representatives will be identified prior to the meeting.
>
> **William Osler Health Centre (Etobicoke General)**
> Meeting will take place at a Medical Building located at 89 Humber College Blvd. (near but not connected to the hospital) on Monday, June

> 16th 2003 at 10:00am. The hospital's Director of Occupational Health & Safety, Terry Siriska, will ensure that there is adequate worker and employer representation at the meeting.
>
> FYI.
>
> Steve G.

As a result of the Ministry promise of the June 13 meeting, the Ontario Nurses' Association advised its members at Mount Sinai to stay on the job.[790]

On the late afternoon of June 12, the Ministry abruptly cancelled the meeting and thereby created for itself a serious credibility problem and a loss of confidence among nurses.

Different Versions

Ministry of Labour

The official Ministry explanation for the cancellation is that the meeting was cancelled because there was no problem at Mount Sinai. The Ministry's submission to the SARS Commission in November 2003 said:

> The consultation at Mount Sinai Hospital did not take place as scheduled. The hospital had been reclassified to a Category 0 (no known cases of SARS).

Pages 15-17 of the Ministry's March 15, 2006, response to a Commission letter contain a brief summary of SARS-related communications received by it during the outbreak. Page 16 contains the following information under the heading "MOL Response" for Mount Sinai:

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[790] ONA President Barb Wahl pointed out to the local Mount Sinai union representatives the limited circumstances under which nurses could withdraw their services, even for serious safety concerns.

> Mt. Sinai reported no issues – field visit deferred pending worker complaints.

These explanations required further investigation. There were in fact serious unresolved issues at Mount Sinai, issues that led to a threatened work stoppage averted only by the Ministry promise of an inspection into worker complaints.

The fact that Mount Sinai reported no issues is no reason to back off the investigation of serious worker complaints. The whole point of an inspection is to not see whether the hospital reports any safety issues, but to see whether there are in fact any safety issues. The Ministry is supposed to investigate worker complaints independently of the employer. The Ministry is not supposed to cancel an investigation because the employer says there is no problem.

The complaint from the nurses had nothing to do with the hospital's classification. The complaint was that safety directives were not followed and that there were breaches of the *Occupational Health and Safety Act*. The fact that a hospital has a zero SARS classification is no defence to a failure to follow safety directives and no defence to a breach of the *Occupational Health and Safety Act*. And because the Commission has seen no evidence that Mount Sinai's SARS status changed between June 11, when the meeting was scheduled, and June 12, when it was cancelled, it seems implausible to advance the hospital's SARS status as a reason for cancelling the scheduled meeting.

Furthermore, the fact that Mount Sinai reported zero SARS is no reason to take off the table a safety inspection to investigate worker safety in a hospital where seven health workers[791] had already come down with SARS despite assurances that all appropriate safety measures were in place.

The direction to cancel the June 13 meeting came from David Walker, the director of the Ministry's central region, in a telephone call to Dr. Genesove, who had been dealing with the ONA.

Dr. Leon Genesove, Provincial Physician

Dr. Genesove recalls:

> Dave Walker is director of central region of the Ministry of Labour and instructed me that the visit to Mount Sinai Hospital should be cancelled,

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[791] See Ministry of Labour occupational illness investigation, Synopsis of Investigator's Findings, p. 2.

apparently because the issues had been resolved there.

Dr. Genesove recalls that he advised Mr. Walker that there were still concerns at the hospital, and that Mr. Walker said, "Let me give you the phone to Helle and she'll explain it." Walker gave the phone to Helle Tosine, the Assistant Deputy Minister. Dr. Genesove said:

> I was in the Downsview office at the time and he was somewhere, I guess at our head office. He said, let me give you the phone to Helle Tosine, our ADM, and she'll explain it. Helle gets on and she said, we have to cancel the visit. I said, this is really a bad idea, why are we doing this? She says, here, speak with Paavo Kivisto, the Deputy Minister; Paavo said we have to cancel the meeting. I spoke to Paavo afterwards.

Dr. Genesove called the ONA to let them know the meeting had been cancelled:

Dr. Genesove:	Later on in the afternoon, I phoned up the Ontario Nurses' Association and spoke to [one of its representatives] and let her know the Mount Sinai Hospital meeting was being cancelled, and of course she was quite upset about that because the issues hadn't gone away.
Question:	So is there someone we should talk to who might know more about this?
Dr. Genesove:	To get more information, you have to speak to probably Paavo or Helle about it and get additional information. The visit ended up taking place about two or three weeks later, at least we started it …

Paavo Kivisto, then Deputy Minister, Ministry of Labour

Mr. Kivisto recalled an issue around Mount Sinai, but not the details. He said that he did not tell staff what to investigate and what not to investigate, that there was no political pressure from the Minister of Labour and that all complaints and refusals were investigated:

Mr. Kivisto:	There was an issue at Mount Sinai. I don't remember the details; I think you're correct to say that there was a

planned inspection, or a planned something, and then it was discovered that Mount Sinai was not – didn't fit the criteria that the Ministry had established of who we were supposed to inspect. So it was taken off the list. There was some controversy over that. Helle [Tosine] can give you a better understanding around that, because I was not involved in that transaction that I am aware of.

Question: In November of 2003, at the public hearings, the Ministry's comment at that time was that there was a consultation but that it didn't take place because Mount Sinai was classified to a level zero.

Mr. Kivisto: They had no SARS. Because they were focusing on the ones that had SARS. I remember there was some question, some controversy over …

Question: ONA's complaint to the Ministry was that Mount Sinai was not following all of the directives given in respect of SARS and they had evidence to support it. The complaint was that there was a serious health and safety concern at Mount Sinai, that the employer was violating the Act and the directives. The consultation was cancelled, so you can see, obviously, ONA saying, we went to the Ministry, we said we had evidence, you cancelled it, there must have been some political pressure brought to bear.

Mr. Kivisto: I don't think so, no, not in that matter. I've no recollection of any political pressure in that the Minister – in terms of him, personally, or his office, never took an active hand in determining how to respond, what was investigated. I didn't tell staff what to investigate and what not to investigate. All complaints and refusals were investigated and were expected to be investigated. That one, my recollection was that I thought it was a planned inspection that we were going to do and because it didn't fit the criteria we took it off the list and focused on the ones that fit the criteria. Helle was on the scene and could give you more detail on that, because I can't …

Helle Tosine, Assistant Deputy Minister, Ministry of Labour

The Commission put to Ms. Tosine the suggestion that Tony Dean called Mr. Kivisto and the Mount Sinai consultation was off:

Question: At Mount Sinai there was a consultation scheduled for some day in June, I think it was around the 11th or the 12th of June. We have the suggestion that the CEO of Mount Sinai called Tony Dean, the Secretary of Cabinet, who I think, at one point, worked in the Ministry of Labour.

Ms. Tosine: Not then.

Question: Not then, no, no, but in a prior life. The suggestion is that Tony Dean then calls Paavo, and the Mount Sinai consultation is called off.

Ms. Tosine: That's not what happened.

Question: No. Then what happened?

Ms. Tosine: We were, it wasn't a consultation, it was more of a proactive inspection.

Question: An inspection?

Ms. Tosine: Yeah, so those hospitals were categorized into those three levels – into 3, 2, 1, they were. And it was mandatory proactive inspection of all level 3 hospitals. So we got the rankings from Health, I can't remember how frequent it was, but they were pretty critical rankings of whether there was probable or suspected SARS in those hospitals. So, as I understand it, I was trying to check that point, I think the ranking changed, absolutely nothing to do with the CEO calling Tony Dean.

Question: Why would he call Tony Dean?

Ms. Tosine: Because people do that.

Question: Thinking they can solve a problem by …

Ms. Tosine: No, they just go on about it. People do that now. You know that happens all the time, you get calls from various manufacturing firms … There was absolutely no interference from Tony Dean.

Question: So when he calls Tony Dean, it's to what, to complain about the fact that there is going to be a review and say well we're not a Level 3 or 2 or whatever it was, or …

Ms Tosine: I don't know what he told him about. I guess you'll have to ask Tony Dean about it. But certainly nobody called me, nobody called me to direct me.

Question: No. Okay. But Paavo spoke to you?

Ms. Tosine: About the call?

Question: Yeah.

Ms. Tosine: Actually I don't remember that, maybe, maybe he did. If he said he did then he probably did, but I actually don't remember that.

Paavo Kivisto, then Deputy Minister, Ministry of Labour

Mr. Kivisto, in a further interview, was asked about the alleged phone calls from Joe Mapa to Tony Dean to Mr. Kivisto to cancel the Mount Sinai inspection. Mr. Kivisto told the Commission:

> I would not have cancelled that meeting. Tony would never give me direction … inspections or investigations. He was formerly a deputy. He

would not ever put that kind of request. If he put that kind of request on me, I'd have difficulty and I'd remember that. I don't take direction from ministers, from other deputies, and CEOs about how we do work at the Ministry of Labour. Never have, never will. A couple of times I thought I was going to be fired for that, stood my ground around investigations of the Ministry because my boss or somebody had given me expectations of what we should or should not do. I guard that jealously. As Deputy, I will not [tell] Operations what to do, what not to do on our investigations or meetings with stakeholders. That's their job. You know, CEOs, I got calls from CEOs. I got calls from unions when I was there. You listen to them but that doesn't influence a decision. The decisions are made on the basis of fact, so if there was a meeting planned and it was a meeting cancelled, talk to the people who planned the meeting or cancelled the meeting. It has nothing to do with any conversations I may have had with Tony Dean. I don't remember him calling me. I don't remember talking to a CEO. I don't remember talking to Helle about it, because I wouldn't. Tony had called me a few times on matters, saying, somebody's called upset about something. All I would do with those calls is, look, Helle, either you call him or I call him, but somebody's going to talk to him, find out what's going on. That doesn't determine whether we do inspections or investigations. That's done by people who are responsible for that job, by the officers and the managers who run the show. I've never had a Secretary of Cabinet ever tell me, stop an inspection, stop an investigation or start one. I've gone the other way as ADM Operations, if anything, I will be giving direction to do more, not less. So that doesn't resonate with me. I don't recall if – I can't believe it happened.

… if he [Dean] called me about any call from a hospital, he would have said I had a call from a concerned hospital, would you look after it. I don't, if there's something about a whole hospital shutting down, I would have, I'd remember it. I don't remember anybody talking to me about a whole hospital being shut down. If there was a complaint, a work refusal, I would expect a field staff to go investigate like we're investigating other work refusals, through investigations and inspections. They're holding meetings off site with unions and hospitals. That did not happen. It would not happen. If it did, I'd know, I'd remember.

And I can't help you. I just don't know. I don't remember being on any phone call around that. I don't remember anything about a meeting at Mount Sinai being cancelled. I would expect that every complaint that

> was called into the Ministry was investigated. I know we were having meetings off site to do those investigations done by Helle [Tosine] and her folks.
>
> I don't remember that name [Mapa]. If a CEO calls with any concerns, I'll listen to it. If it's something that alleges improper action by the Ministry, I'll have it investigated. I don't let it influence how we carry out our work.

Helle Tosine, Assistant Deputy Minister, Ministry of Labour

In a later interview with the Commission, Ms. Tosine said:

> Nobody called me and I was never made aware of any conversation that happened between the CEO of Mount Sinai and Tony Dean. Tony Dean never called me once during SARS, also Paavo [Kivisto] never directed me on which hospital to go in, or which hospital not to run to.
>
> Well, that's right. So, we never got a formal complaint from Mount Sinai. I recognize that, we don't have a formal complaint from Mount Sinai.
>
> I'm going to assure you again we experienced no interference from anyone around Mount Sinai.

Mr. Walker told the Commission:

> I mean, what's clear to me, although I wasn't contacted directly by anyone from the hospital or whatever, it's clear to me there were conversations, that there had been a phone call made at a senior level, like from the CEO, but I think last time I mentioned – actually I remember there being discussion around a call from a hospital CEO and actually the hospital was St. Mike's, but honestly, I think I said it, you know this, but it really could've been Mount Sinai, but I know there had been a call from a hospital CAO, or CEO, I certainly recall that there was a conversation. Not that I was, that I remembered being there, I don't believe that I was, but it certainly was relayed to me that there was a conversation between the Deputy Minister and that CEO from the hospital, but that to me is really clear, clear memory of that. I don't remember specifically

> sort of that, sort of conversation, when you said pass the – when Leon [Dr. Genesove] said pass – you need to talk to Helle [Tosine], that does sort of jog me. And I am trying to sort of put my mind to sort of who was in the room at the time. I don't remember the Deputy being in the room that moment, but it is possible he was, right.
>
> I was told that, and I could be incorrect, but I believe that it was Steve Grier that told me, but I believe that, I suddenly remembered being told that there was a CEO that had called, was upset, and that there was a conversation between the Deputy Minister and that person – that, to me, that's very clear memory. I wasn't there for it, and then obviously there were discussions that happened after that in terms of how to respond, in terms of a visit, or no visit, and so …
>
> Sure, I think, it's clear to me in terms of, in terms of what Leon was saying, the fact that I would have said that, I would have said that here you need to speak to Helle, right, that people were uncomfortable, right, that there was a discomfort with how, how to explain to ONA, that there wasn't going to be a meeting.
>
> … CEO, well, I wasn't directly involved in the conversation … It was quite clear to me there was a call. Now, whether the call was from the CEO directed to the Deputy or the Deputy called the CEO as a result of another conversation, that was clearly relayed to me that there was a conversation between the Deputy and that person …

Brad Clark, then Minister of Labour

The then Minister of Labour, Brad Clark, appeared unaware of the cancellation. He was visibly appalled at the allegation that the worker safety mandate of his Ministry had been thwarted by a phone call to his officials from the Secretary of Cabinet. He said with some heat that if they had called him he would never have cancelled the meeting:

> It does shock me that there was alleged political interference coming from the centre. I had a real reputation as being a real hard-ass, and rules are rules, and ethics are ethics, and we abide.
>
> … So I had no hesitation about getting involved and ordering the right thing to be done. I was not told, it was never brought to my attention

> that orders were not being issued or followed up on, inspections were not being done …
>
> There can never be a hint of political interference.
>
> … I never wanted to be the person that said, no, you lay charges now. Because, these folks are independent, they know their job. I had complete faith in them. They do their inspection, if they recommended charges, then charges should be laid.
>
> I have reservations that it happened, but if it did happen, I would not be a happy camper. And if it did happen, it doesn't surprise me that they didn't come to me, because they know full well I would have blown the whistle.

The strength of the former Minister's reaction gives force to the proposition that a telephone call from the Secretary of Cabinet to a Ministry of Labour official at the behest of a hospital CEO to prevent a worker safety inspection would be regarded within government as an unacceptable form of political interference with the Ministry's legal mandate to protect health workers.

Tony Dean, Secretary of Cabinet

Mr. Dean told the Commission:

> I don't recall talking with Mr. [Joseph] Mapa. Perhaps I did talk with him, I don't recall it. What I can tell you with absolute certainty is that I did not, and I would not, and I never have directed or instructed the Ministry of Labour anything or any deputy of any other regulatory ministry to change or alter any field-level inspection, visit, meeting, or order. So, that would not have happened …
>
> Having told you what I don't do, it's probably helpful to tell you what I do do on occasion. I do get calls from external parties. Examples that spring to mind are concern that my colleagues at a ministry are perhaps overreaching in the protection of the environment to the detriment of people in the development community. That some have the balances getting out of tilt or whatever. That a trade union president will call me and say, "Do you really understand the implications of this strike?" and that's it. And I certainly would, and do on certain occasions, collect that

> information and transfer it to the Deputy Ministers as information. I would say, I've had a call from X or Y and this is what I've been told and this is something you should know. I really need to be clear: I would never, in the course of doing that, infer or suggest that any action of any sort ought to be taken …

Joseph Mapa, CEO of Mount Sinai Hospital

Mr. Mapa told the Commission:

> I wish I could shed light on this. I don't even remember that – I just don't. If it did happen, I'll just complete some probability scenarios for you, although I really don't. If it did happen, it must have happened for a good reason. What I mean by that is I would never, knowing my behaviour, and knowing our relationship with the unions as well, our effort to be very close to the unions, call off something such as that. So, if it did happen, it was probably advised by Dr. [Donald] Low and others who advise me. I was very dependent, very fortunate at Mount Sinai Hospital to have people of that expertise available and, at that time, there was so much ambiguity that we were very lucky to have the kind of expertise and talent to advise me. So I was the luckiest CEO, probably, in the city. So I'm giving you probability. I don't know, it's not my nature to do that unless for those reasons. You know, the meeting is set and it's someone from the outside coming in, even during the crisis. In fact during the crisis we invited people during SARS to come and take a look at the ICU [intensive care unit] procedures.

Later Positions and Explanations

In a letter dated June 18, 2003, to Premier Ernie Eves, Barb Wahl, President of ONA, said:

> It is with huge concern for public safety that I am writing to you today. As you yourself have said, Ontario Nurses' Association (ONA) members have been heroic, as they have faced both professional and personal challenges in battling the SARS epidemic in the Toronto area.
>
> The Centers for Disease Control investigations have linked the spread of SARS to improperly fitted masks. There is ample evidence that many of the Toronto-area hospitals have not met the basic health and safety

requirement for mask fit testing as set out in Section 10 of the *Regulation for Health Care and Residential Facilities* made under the *Occupational Health and Safety Act.*

We were encouraged by recent decisions and proactive actions of the MOL to help protect our members from further danger. Last week, the MOL issued orders regarding proper protective equipment in two hospitals after investigating a work refusal and a complaint. Thereafter, the MOL began proactively inspecting other high-risk hospitals and committed to continue to visit *all other* Toronto area hospitals to ensure that health care workers are properly protected. On June 12, 2003, I wrote Ed McCloskey, your director of Occupational Health & Safety at the MOL explaining that it was imperative to conduct and complete these investigations immediately.

On the morning of Friday, June 13, 2003, we were advised that the MOL ordered a halt to all proactive inspections for all Toronto area hospitals. In a slight change of position by end of the day, they further advised that pro-active inspections will only proceed for Category 3 & 2 facilities and no other facilities will be proactively inspected. This is unacceptable. Given the current undisputed evidence, we expect the MOL, to continue to at least issue orders regarding provision of personal protective equipment, fit-testing of respirators, and risk assessment programs, where they are found lacking.

Further disappointment followed when the Ministry of Health and Long-Term Care (MOH/LTC) replaced the May 31, 2003, directives with the revised directives issued on June 16, 2003, which reduced the protection for the majority of health care workers. Given increasing evidence that health care workers need properly fitted masks to protect them from SARS, it is premature to reduce the protection of these workers.

A disturbing memo to all staff dated June 13, 2003 from the CEO of Sunnybrook and Women's College Health Sciences Centre confirms that this employer was working with your Science Committee at the SARS Operations Centre to draft these new directives. Why are employers permitted to work directly with the Science Committee when our organization has not even so much as been given an opportunity for direct input? We question whether it is science that changed the directives, or

> convenience and economics for employers?
>
> Your labour ministry has an obligation to ensure that employers are taking all reasonable precautions to protect workers. The MOH/LTC directives may act as a base guideline, but in no way should limit the Ministry's enforcement powers under the *OHSA* to ensure that employers are taking the maximum precautions, not the minimum as set out in the directives.
>
> As you must know, since the original SARS outbreak we repeatedly advised the Ministry of Labour of our health and safety concerns, and of the employers' non-compliance with the *Occupational Health and Safety Act.* On June 7, 2003, your Commissioner of Public Health & Chief Medical Officer of Health and your Commissioner of Public Security sent a letter to all acute care hospitals in Toronto, York and Durham Regions, admitting knowledge of their awareness that several employers are known to be breaching the provincial directives.
>
> ONA has also repeatedly advised the MOL/LTC that the directives did not go far enough to adequately protect our members' health and safety. I ask that you intervene at once and direct the MOH/LTC to re-issue the directive requiring any staff working in patient care areas in the GTA (Toronto, York and Durham Regions) to wear full personal protective equipment. Despite everyone's desire for this crisis to be over, we simply cannot afford to reduce health and safety measures again *unless and until there is conclusive scientific evidence to support such an action.*
>
> In light of the circumstances the Ministry of Labour officials' scaling down of inspections, in our opinion, borders on regulatory negligence. I ask you to direct the MOH/LTC to re-instate precautions in the directives that fully protect all health care workers in patient care areas and ask you to direct the MOL to reinstitute proactive health and safety investigations, with sufficient resources to complete them forthwith. We believe that you, too, have an obligation and duty under the statutory regime. Failure to meet these obligations, in our opinion, would also constitute statutory negligence on the part of this government. We urge you in the strongest terms not to stand back and knowingly aid and abet those employers who continue to put our members' lives at risk.

In a letter dated June 26, 2003, to Ms. Wahl, Premier Eves said:

Thank you for your letter about health care workers in Ontario and the *Occupational Health and Safety Act.*

From the very onset of the SARS crisis in Ontario, our government has been both scrupulous and consistent in issuing directives concerning proper infection control procedures, including the wearing of personal protective equipment. As additional information has become available, and our understanding of the virus has increased, the directives have become more focused. We are doing more to better protect the health and safety of patients and health care workers.

The Provincial Operations Centre provided guidelines dated April 14 on the safe and proper use of masks. On May 2, the Provincial Operations Centre issued a communication containing a list of companies providing mask fit testing services. On May 28, in a communique to providers, the Ministry of Health and Long-Term Care reinforced the importance of fit testing of masks and communicated that health care workers who are most at risk of being in close contact with people who have febrile respiratory illnesses should be fit tested as a first priority.

Directives issued by the Ministry of Health and Long-Term Care on June 16 reinforce the message that people working in SARS units must wear personal protective equipment at all times. Further directives issued on the same date deal with high risk procedures and require a personal protective system that covers the face and head completely.

The directives are drafted by the Ontario SARS Scientific Advisory Committee, which includes two infection control nurses. The directives are predicated on the best available science and the need for caution. They are circulated to a reference group from health care facilities, including infectious disease specialists. The focus of the review is on the clarity and implementation of the directives.

With respect to the Ministry of Labour's actions, I want to assure you that the Ministry will continue to investigate all complaints and work refusals in a timely fashion and issue orders as appropriate. As you have noted, the Ministry has investigated complaints and work refusals and has issued orders to two hospitals. On June 10, the Ministry issued four orders to North York General Hospital following a work refusal investigation. On June 10, the Ministry issued three orders to St. Michael's Hospital following a complaint investigation.

The ministry initially concentrated its proactive efforts on the health facilities that are at higher risk because of SARS. To date, the Ministry has completed consultations and/or investigations in all Category 2 & 3 health facilities. The ministry is now working proactively with all Category I hospitals to ensure compliance with the *Occupational Health and Safety Act* and applicable regulations. To this end, the ministry has already contacted all Category I hospitals and will arrange for a consultation with the workplace parties in the near future. As always, any worker health and safety concern should be brought to the attention of the Joint Health and Safety Committee and the Ministry of Labour should be contacted concerning any unresolved issues.

We will continue to be vigilant to protect the health and safety of patients, health care workers, and the community. We must not let our guard down.

The unprecedented challenge of SARS has placed tremendous strain on health care workers across the Province as they strive, under unique and extraordinary circumstances, to combat this new disease. I recognize that they have all been working tirelessly to protect those in their care, as well as their community, from further SARS infection.

I also recognize that our government could not have succeeded in moving forward with our initiatives to combat the outbreak of SARS without the support of our murses. It is this steadfast commitment to the health of Ontarians that is assisting health officials at all levels of government to move us towards the successful containment of SARS.

Ontarians are grateful knowing that they can rely on our nurses and other health care workers during this difficult time. We want to assure them that we will continue to support health care workers in treating the sick, in protecting the vulnerable, and in containing SARS.

I appreciate your bringing these matters to my personal attention.

In their joint submission to the SARS Commission public hearings, ONA and OPSEU said:

> Mount Sinai Hospital – The MOL was targeting Mount Sinai for a proactive MOL investigation into respirator fit testing and training for June 13, 2003. On June 13th, the proactive inspection for Mount Sinai was cancelled. Prior to this decision, ONA had complained earlier in June to the MOL that Mt. Sinai was not meeting its obligation to fit-test employees as per the directives. Both unions wonder why the MOL decided to cancel this proactive inspection despite ongoing member complaints.[792]

On the one hand, to schedule or to cancel one of a series of proactive consultations would properly require the policy involvement of senior Ministry of Labour officials. On the other hand, to cancel a formal investigation scheduled under the statutory authority of the Act and regulations in response to safety complaints by workers or their union is an operational decision that should not involve the policy involvement of senior Ministry officials, particularly if the reason given for the cancellation is that the employer says there are no problems.

The suggestion that the Mount Sinai meeting was cancelled because of a call from the hospital's CEO to the Secretary of the Cabinet involves a serious perception of political interference with the Ministry of Labour's legal mandate to protect worker safety. It is one thing for a hospital to consult with government. It is another thing to go over the head of officials responsible for worker safety, not just to their Director or their Assistant Deputy Minister or their Deputy Minister, and not even to their Minister, but directly to the centre of government, the Secretary of Cabinet, who sits at the Premier's right hand and speaks with the authority of the Premier. A direction from the Secretary of Cabinet to any Ontario public servant is understood to be a direction from the Premier.

The Commission found strong evidence of a perception that political interference was at work in the abrupt cancellation without reasonable explanation of the Mount Sinai worker safety initiatives.

Because of its timing and the fact that the decision came from somewhere above in some mysterious way without reasonable explanation, and because of the lack of appropriate documentation and the fact that no one is prepared to step up now and take responsibility for the decision, the perception of political interference is natural and inevitable.

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[792] ONA and OPSEU Submission to the SARS Commission, SARS Commission public hearings, p. 20.

The curious thing about the cancellation is that no one in a position of authority, no one in the direct chain of cancellation, seems able to remember what happened or why. Mr. Walker, who directed Dr. Genesove to cancel the meeting, said he could not recall the reasons:

> I don't know who made the decision – it wouldn't have been a decision that, as regional director, I would have made, on my own, just to sort of say, oh well, we won't go or we won't do that, right, so it's reasonable to assume that there was some, some direction or some discussion about [it]. If I was a participant in that discussion program about that particular facility, I honestly can't remember whether I was.

Dr. Genesove, who got the direction from Mr. Walker and spoke at the same time to Deputy Minister Paavo Kivisto and to Assistant Deputy Minister Helle Tosine, suggested the Commission speak to Mr. Kivisto or Ms. Tosine:

> To get more information, you have to speak to probably Paavo or Helle about it and get additional information.

Paavo Kivisto, the Deputy Minister, in turn suggested we ask the Assistant Deputy Minister:

Question:	Mount Sinai? Why was the visit cancelled?
Mr. Kivisto:	I don't remember the details. There was a planned inspection. When Mount Sinai didn't meet criterion, it was cancelled. Ask Helle Tosine.

Helle Tosine, the Assistant Deputy Minister, did not recall who made the decision:

> I don't know … personally who made that decision to go to Sinai, on or off, but I was certainly told about it.

Someone made this controversial high-profile decision, but no one in a position of authority remembers who made the decision. This collective lack of recollection becomes more and more pointed with every witness in the direct chain of cancellation who suggests the Commission speak to someone else in the chain of cancellation, and that person – indeed, each person in turn – cannot recall who made the decision. This jarring lack of recollection adds fuel to the perception of political interference.

The Minister of Labour, as noted above, made it very clear to the Commission that he had nothing to do with the cancellation and knew nothing about it in advance. The strength of his reaction gives force to the proposition that a telephone call from the Secretary of Cabinet to a Ministry of Labour official at the behest of a hospital CEO to prevent a worker safety inspection would be regarded within government as an unacceptable form of political interference with the Ministry of Labour's legal mandate to protect health workers.

Those involved in the incident use different language to describe the June 13 meeting. There is still some confusion about what exactly it is that was cancelled. Confusing terminology is used to describe the process by which the Ministry of Labour hears about and responds to worker safety concerns, terminology like "complaint," "formal complaint," "inquiry," "proactive field visit" and "investigation."

In the end, the confusing terminology is not of prime importance, although more will be said later about the need to ensure that nurses and hospitals and the Ministry of Labour understand each other and use consistent language when they describe vital processes such as the investigation of workplace danger in hospitals.

The reason terminology is relatively unimportant is because political interference or improper pressure on the Ministry of Labour to cancel any worker safety procedure is unacceptable, whether you call it an "inspection" or an "investigation" or a "proactive consultation" or a "field visit."

The evidence of Mr. Mapa, Mr. Dean and Mr. Kivisto is uncontradicted by any direct or circumstantial evidence and there is no reason to doubt it. The evidence taken as a whole makes it clear that there was no phone call from Joe Mapa to Tony Dean to Paavo Kivisto to cancel the Mount Sinai June 13 worker safety consultation.

The Commission finds that Mr. Mapa did not call Tony Dean about the June 13 meeting or about anything else. Although the Commission's source is honest and reliable, the hearsay relied upon by the source is inaccurate. It may be that in the chain of hearsay transmission, confusion arose over a call from another hospital to Mr. Dean about another matter or over another call from Mr. Mapa to other Ministry of Labour officials about another matter.

Regardless of how the meeting was cancelled, the bottom line is it was called off. If a health and safety inspection is cancelled, the process requires full transparency and accountability. There should be no mystery surrounding its cancellation and surrounding the chain of command that led to its cancellation. Regardless of the terminology attached to the nature of the "inspection," the prime consideration should be the safety of health workers. The safety of health workers is always paramount. If they are not safe, then neither are patients, visitors or the public.

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THE SARS COMMISSION

Final Report

Pages 874–1204

Spring of Fear

Volume 3

The Honourable Mr. Justice Archie Campbell
December, 2006

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Dedication

This report is dedicated to those who died from SARS, those who suffered from it, those who fought the disease, and all those affected by it.

CHAPTER FIVE: The Victims of SARS

Death on the Front Lines

Three medical workers on the front lines died during the SARS outbreak. One was a family doctor and the other two were nurses.[793] The deaths shook the health care community, spawning calls for a better information flow to family doctors and better protection in the workplace for all who work in hospitals.[794]

Nelia Laroza

Nelia Laroza was the first of two nurses to die during the SARS outbreak. She worked at North York General Hospital and succumbed when SARS reappeared after authorities thought they had beaten the outbreak. She was 52 years old and died on June 29, 2003.

Her death sent shockwaves through the nursing and medical communities. Her funeral was attended by union leaders and politicians, including Ernie Eves, Ontario's Premier at the time. An honour guard of nurses, wearing black armbands, paid tribute to her at her funeral.

Nelia Laroza was known for her skills and was well respected by doctors and colleagues. She was an unlikely candidate to be struck by SARS because she was meticulous about precautions against infection.

A nurse who worked with her for a decade told the Commission:

> … a great loss. And she was so paranoid about SARS that when they first came forward and told us, she always dressed in a gown. We were

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[793] A fourth medical worker, Adela Catalon, a nursing aide at a Toronto retirement home, also died of SARS, in the Philippines. Her story is told in the chapter "The Lapsley Family Doctors' Clinic."

[794] Because the names of these three health workers and the particulars of their illnesses are already in the public domain, they are disclosed openly in this report.

> 100 percent dressed in gowns, she was 120 per cent dressed in gown. She was so paranoid about SARS.
>
> And we just couldn't understand why she died.

Nelia Laroza feared SARS from its first outbreak at Scarborough Grace Hospital. She did not work there, but it was not far from her family home. Members of her family told the Commission that she bought masks and family members carried anti-bacterial hand wash at all times.

Whenever her daughter picked her up from work, she had to wait in the parking lot and call her mother on a cellphone. Nelia did not want her daughter to wait inside the hospital, fearing that the air was contaminated.

When she came home, she headed for the shower and changed her clothes before hugging any members of her family.

A doctor who worked with her had nothing but praise for Nelia:

> She was a good nurse, very casual, without any sort of announcement, was very professional, good with her patients, and had the ability to pick up on if something was changing in them. She would identify it; she'd let you know.
>
> Nelia was someone who, if she called you, and said "I'm worried about so-and-so," it would be because they've done this and this. Other people might not be as clinically observant or have the ability to communicate it … Nelia was just very good that way. She was as good as it gets for anyone, she was just your good, basic, decent person.

Nelia followed the strict protection regimen even after the authorities declared that SARS was contained.

She worked on the orthopedic ward of North York General, where the second outbreak started and many of her colleagues became ill.

Toronto Public Health records show that she became ill with fever and muscle aches on May 16. She went to hospital on May 21, but was sent home with a diagnosis of "viral illness."[795] She returned to the hospital on May 23 as a patient and was admitted with a diagnosis of possible SARS. She died on June 29.

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[795] Toronto Public Health Case Review.

Nelia Laroza was born in the Philippines on October 10, 1951. She worked as a nurse for more than 20 years, 13 of them at North York General. She lived with her husband, Emiliano, daughter, Grace, and son, Kenneth. At the time, her children were 23 and 16 years old.

All were quarantined but only her son was infected. He recovered. More than 1,500 members of his school were also quarantined.

The doctor who worked with her told the Commission:

> … she took great pride in her work and her kids, and … Nelia [and I], we both followed protocol. But Nelia was seeing those patients, a larger number of patients more frequently. And I've often said, the reason that she contracted SARS is because she was a good nurse, in the sense that she was a bedside nurse, made good notes, looked after her patients.

Tony Clement, Minister of Health for Ontario at the time, had this comment on Nelia's death:

> Anyone who works day in, day out to protect the rest of us from any manner of disease, when you lose one who is acting heroically, it's a loss for everyone.[796]

Tecla Lin

Tecla Lin was one of the first health workers to volunteer to take care of SARS patients, and the second nurse to succumb to SARS. She worked at the West Park Healthcare Centre, where ill staff from Scarborough Grace Hospital were brought into a SARS unit established especially to cope with the outbreak.[797]

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[796] 796. CTV News report, July 4, 2003.

[797] 797. West Park Healthcare Centre, media release, July 21, 2003.

Ms. Lin's first shift was on March 24, 2003, and her last on April 2, 2003. The following day she had fever, muscle pain and a cough and on April 4 was admitted to Sunnybrook Hospital and later transferred to William Osler Health Centre. She died on July 19 from complications of SARS. Tecla Lin was 58 years old.[798]

Her husband, Chi Sui Lin, also developed a fever and after a brief quarantine period because of his wife's exposure to SARS was admitted to Toronto East General Hospital, where he died on April 26. Mr. Lin was 77 years old and had previous health problems.[799]

Ms. Lin was a popular and respected nurse who had a special empathy with patients. Her death devastated those who worked with her.

A doctor at West Park told the Commission:

> When Tecla Lin died it was the worst. I did not think I was very well for a while. I did not want to go anywhere, I just wanted to be home. I was tired ... it was like [I] had been through an earthquake.

Tecla Lin was born in Hong Kong on December 18, 1944. She had more than 35 years' experience as a registered nurse in Hong Kong and Canada. She began her nursing career in 1968 in Kowloon, after graduating from the Government School of Nursing. For the next five years, she worked as an operating room nurse.

In 1973, she moved to Canada with her husband and two sons. From 1977 to 1998, she worked at the Doctor's Hospital in Toronto, where she developed specialized skills in monitoring intensive and critical care unit patients. During that time she earned a Bachelor of Applied Arts in Nursing and a Certificate in Critical Care Nursing from Ryerson University.

She worked at West Park part-time and also had another part-time job, at the Toronto Rehabilitation Institute.[800]

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[798] Toronto Public Health Case Review.

[799] Toronto Public Health Case Review.

[800] West Park Healthcare Centre, media release, July 21, 2003.

Survivors include her sons, Wilson and Michael Tang, who were toddlers when the family moved to Canada.

Michael Tang told the *Toronto Star*:

> My mother died on the battlefield of SARS. She was ready and willing to take on risks and dangers. She died with a lot of honour and dignity.[801]

Tecla Lin never told her children that she was caring for SARS patients. Michael Tang told the *Toronto Star*:

> I don't believe she considered it a lethal career decision.[802]

Politicians and medical dignitaries attended her funeral at Elgin Mills Cemetery. Tecla Lin was a Buddhist and believed in reincarnation. Her sons placed items she would need in her next life with her body: her glasses, purse, makeup, photos of her deceased husband and a calculator.

Her son told the *Star*:

> She always had tons of calculators.

Dr. Nestor Yanga

Dr. Nestor Yanga, a family physician working at a small family doctors' clinic in Toronto, was the only North American physician to die of SARS. Dr. Yanga, 55, was one of four doctors at the Lapsley Clinic in northeast Toronto. Two other doctors at the clinic also contracted SARS but survived. The story of the Lapsley Clinic is told elsewhere in this report.

Many of Dr. Yanga's patients were members of Toronto's Filipino community of about 200,000 people. When SARS struck, some its members who had attended a religious retreat started showing symptoms and came to the clinic to be checked.

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[801] *Toronto Star*, "Tecla and Chi Sui Lin," September 27, 2003.
[802] *Toronto Star*, "Tecla and Chi Sui Lin," September 27, 2003.

Dr. Yanga examined a BLD (Bukas Loob Sa Diyos) member as well as other members of the S family, whose story is told earlier. Details about SARS had not yet reached all the family doctors, and he wore no protective equipment when he examined the patients. Late on April 4, Dr. Yanga developed fever, muscle pain and fatigue. The next day he began to cough and went to a SARS assessment clinic in nearby Markham. He was sent home and told to quarantine himself. When his condition became worse, he was admitted to Sunnybrook Hospital on April 8. He died on August 14, 2003, from complications of SARS.[803]

More than 2,000 people attended his funeral at St. Michael's Cathedral in downtown Toronto. The mourners included Tony Clement, then Ontario's Minister of Health, and Dr. Larry Erlick, then President of the Ontario Medical Association.

In a statement, Dr. Erlick said:

> Dr. Yanga's caring and devotion to his patients serve as an outstanding example of the commitment and professionalism that define what it means to be a physician.
>
> Doctors put their lives on the line every day that they go to work. Dr. Yanga demonstrated determination and dedication to the profession and to his patients – he is an example for us all.[804]

As the *Toronto Star* reported, many at the funeral wept as Dr. Yanga's younger son, Ronald, 16, said he was planning to buy a "Welcome home, Dad" banner when he got the news that his father had died:

> I always thought he would be there forever and I wouldn't have even to think of him being gone … It's hard to know that he's not going to be home anymore.[805]

Dr. Bina Comendador, a friend of Dr. Yanga, told *The Globe and Mail* newspaper:

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[803] Toronto Public Health Case Review.

[804] Ontario Medical Association media release, August 14, 2003.

[805] "Poignant tribute to MDs' rare spirit," *Toronto Star*, August 20, 2003.

> He was the kind of person you could respect and really care about, and I think his patients felt that too. He would make you feel that you were special and that you were the most important patient.[806]

Dr. Yanga was a former president of the Canadian Filipino Medical Association and a dedicated general practitioner and church volunteer. According to friends, he was passionate about everything he did. He loved dancing, gardening and spending time with his two sons, Nelson and Ronald. At the time of his death they were 20 and 16.

Dr. Yanga was born on October 8, 1948, in Malabon, the Philippines. He studied medicine at the University of Santo Tomas in Manila. He specialized in surgery and graduated in 1975. He immigrated to Canada in 1981. In the same year, he married Remy, whom he had met during a visit two years earlier. He took his medical exams in Canada and interned at a hospital in Newfoundland and then at two hospitals in Toronto.

He studied at McMaster University and the University of Toronto, intending to become a psychiatrist, but he changed his mind in his third year and chose family medicine instead.

While at the Lapsley Clinic, Dr. Yanga assisted with surgeries at Scarborough Centenary Hospital and worked as a volunteer at the sexual assault centre at Scarborough Grace Hospital. He and his wife were dedicated members of the charismatic Catholic group Bukas Loob Sa Diyos (BLD).

Dr. Yanga had a lifelong passion for ballroom dancing, which he enjoyed with his wife. He was a consummate family man who reserved time for his wife and two sons.[807]

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[806] "A life cut short by Severe Acute Respiratory Syndrome," *The Globe and Mail*, September 5, 2003.
[807] "A life cut short by Severe Acute Respiratory Syndrome," *The Globe and Mail*, September 5, 2003.

Patients and Families

The story of SARS is the stories of its victims. Only the details of these shattered lives can fully reflect the horror brought by the disease and our health system's inability to protect us.

As the SARS story recedes into history, it becomes easier to forget the nightmares this unexpected killer disease made real. It becomes more difficult to convince government to do what is needed to ensure that we are spared such horror in future. Listening to the victims' voices help us to absorb and accept the lessons of SARS, critical lessons that might spare us from similar catastrophes.

No one should ever forget the pleas of a woman who told the Commission of the almost incomprehensible anguish suffered by her family:

> There are still questions that need answers. The most important one, why did we have to suffer through such political chaos just because some bureaucrats couldn't agree or get their facts straight. We are little people in the grand scheme of the SARS episode and it is the little people that suffered the most and [our voices] fell on deaf ears.
>
> We need changes to our hospitals, we need changes to our public health care system and we need changes to all levels of government departments that deal with emergency measures. Someone has to do something before it is too late for more little people.

The victims of SARS are representative of our society. Some were ordinary working people, some were doctors and nurses, some were retired and some were immigrants trying to build new lives. Their stories can be grouped as those who died, the families of the dead, those who survived and their families, and the hidden victims who did not get SARS but saw their lives affected by it. Forty-four people died of SARS in 2003 and many thousands were affected, as victims who survived, or relatives and friends or those who had to face the isolation, discomfort, fear and stigmatization of quarantine.

Their stories say much about our health system and ourselves. Some reveal specific systemic failures, like the failure to have any consistent policy for hospital visitors during SARS. This is illustrated by the family whose father died after open-heart surgery. They were told by the hospital's cardiac coordinator that they could visit him before the surgery, but the decision was reversed by a nursing supervisor who the family felt was too arbitrary. The family did not get to see the father before he died. The problem here does not rest with any individual but with the lack of a system to assist families and visitors to navigate the visitor restrictions imposed by SARS.

Some of the worst stories come from the earliest days of the outbreak in March and April, before the system learned anything about SARS. However, many of the systemic weaknesses continued, and even in an improved system, nothing can take away the devastation caused by the deaths and the serious illness.

All the stories reflect the pain inflicted by SARS on many families. In many cases, some of the pain could have been avoided had the health system been more effective. The individual hospital could have done nothing more for the family of the mother and father with SARS who shared a hospital room. After the father died and hospital orderlies wheeled away his body, the mother remained for 20 days, visited only one hour a day by her family because SARS required visitor restrictions. The hospital did nothing wrong and can't be blamed for restrictions that left the dying woman unable to see her family the other 23 hours of the day. What was wrong was a hospital system inadequately protected against the onslaught of a deadly disease.

Some stories tell of courageous selflessness of those who became afflicted because they chose to help, such as the nurses' aide who volunteered to visit a friend's elderly mother because she was ill at home and needed nursing help when her daughter was at work. Unknown to anyone, the elderly woman's illness was SARS. She passed it to the Good Samaritan nurses' aide, who carried it to the Philippines during a vacation, where she infected her father. SARS killed both her and her father.

Or the hospital clerical worker who was asked by a nurse to help lift a patient. It wasn't her job, but she wanted to help. It was discovered later that the patient had SARS. The clerical worker infected her 62-year-old father, who died of SARS.

Many health workers became seriously ill from SARS and some died. Their stories are told later on in this section and in other parts of this report.

The stories of non-SARS patients, their families and their friends, who suffered because SARS interrupted the delivery of normal, day-to-day medical treatment for other diseases and conditions, are told in the section called "The Wider Impact." These are the stories of citizens who entered the health care system for a variety of reasons, caught SARS and died.

The stories of the victims, their families and their friends follow a pattern. First the confusion, fear and lack of information surrounding initial treatment. Then conflicting information about quarantine, and confusion, stress and heartbreak of hospital visitation restrictions. Then not knowing for sure what your relative died of, or hearing through the media that he or she died of SARS. And the heartbreaks of a funeral process thrown into chaos because those who needed to be there were too sick to attend, or because public health authorities imposed restrictions, or because people were just too frightened to attend.

The victims' stories tell of individual misery but grouped together they show some common themes:

- *Poor communication with families.* Different people in authority seemed unable to provide consistent answers. People were not always told directly that their relative had SARS. They sometimes learned from the media or other sources.

- *Lack of clear and consistent visitation rules.* The inability to regularly visit their sick relatives, even to be with them and to say "I love you" before they died.

- *Inability to have a traditional funeral.* In some cases, funeral visitations were forbidden or restricted. Mourners had to stand off at a distance at one burial. For some, there was no closure.

- *Stigma of being associated with SARS.* One family that lived through hell because of SARS was told by a school that their children could not return to classes even after they successfully passed through the public health quarantine period. One daughter missed her final exams because her school refused to let her return to class.

In all of this we must remember that everyone who fought SARS, from hospitals to public health workers to high officials in government, were also victims in one sense because they had the misfortune to work in a system profoundly unprepared and starved by successive governments of the right resources to meet a crisis that no one expected and for which no one had planned. These administrators and front-line workers had to cope with what they had. They cannot be blamed personally for the confusion and frustration and problems suffered by the victims of SARS. Instead of assigning blame, we must build systems and safety cultures that prevent what happened during SARS.

The Commission tried to contact all the families directly affected by SARS in Ontario. It was not successful in reaching them all. People moved, or in some cases the families contacted said they did not want to talk to the Commission or anyone about SARS.

The victims' stories that follow are as told to the Commission by the victims, their families and their friends. They suffered awfully from SARS and might recall events differently from someone seeing the outbreak from a different perspective. The Commission has not tried to corroborate details of the victims' stories. The purpose of telling the stories is to try to reflect the overall horror that smothered these peoples' normal lives during SARS, and not to confirm every detail.

A Descent into Horror

They were a family of four generations, well educated, intelligent and close to each other, until SARS arrived and placed them on a descent into madness. Only two generations emerged from the madness, shell-shocked survivors of a horror none of them could have imagined.

Like some other SARS stories, theirs began with seeking medical attention for a non-contagious medical complaint, in this case a broken hip. The elderly matriarch of the family fell and was taken to hospital for surgery. This was the second week of May, several days after the World Health Organization had lifted the SARS travel advisory for Toronto.

The surgery went well and the matriarch was well cared for by her daughter and son, both in their 60s. She also had the support of others, including a grandson we'll call Mr. U, in his 40s, his wife, Mrs. U, and their children. However, later during the week of surgery, the matriarch fell into a coma and died.

A small funeral was held but that night both the matriarch's son and daughter became ill with flu symptoms. Grandson U also reported feeling ill. All three had spent time with the grandmother during her hospital stay.

Mr. U's wife (Mrs. U) decided that all three needed to be checked, so she took them to hospital. There they were told they were probably SARS patients and they needed to go to the hospital handling SARS.

Mr. U recalled that a doctor told them there were only two beds left in the SARS ward. One of the sick people would have to go home. Mr. U decided that his mother and uncle were in worse shape than he and that they should get the beds. He had a high temperature but was sent home in a taxi, an unmasked threat to the taxi driver.

Public Health already had quarantined his wife and five children at home, but he worried about being too close to the children. So he moved to his mother-in-law's place because she was out of the country for two weeks. He and his family kept in contact by telephone as his condition deteriorated. The wife and children did not develop any symptoms.

Mr. U became so sick that he called an ambulance to take him to hospital.

In the midst of this, his wife received a telephone call from the funeral home that had handled the matriarch. The person on the line demanded to know why Mrs. U had not revealed to them that the matriarch had died of SARS. Mrs. U said no one had ever mentioned that the matriarch had SARS and that everyone assumed the three other family members simply got it from the hospital. She then called the hospital to ask if it was true. She said:

> And that's how we were notified that [Mr. U's grandmother] died of SARS.

The nightmare worsened. Mr. U's mother died at North York General. Mr. U had arrived there by ambulance and the hospital administration insisted that he be told of his mother's death. Mrs. U said it would kill him but the hospital insisted and she had a doctor stand in the doorway while she delivered the news. Mr U was so sick at the time he was given only a 20 per cent chance of living.

While trying to cope with all of this, Mrs. U received a call from Public Health, who wanted a list of everyone at the matriarch's funeral. She said the names would be in a memorial book at the matriarch's apartment but no one could go to get it because they were either in hospital or in quarantine. Public Health told Mrs. U to drive to the apartment and get the book, but to wear a mask.

Mrs. U drove to the matriarch's apartment building but the people she encountered were hostile and she left without going into the apartment:

> If not for the fact that they were afraid to come near me, I honestly, I'm convinced that they would have mobbed me. The maintenance people, the people around the elevator. This was not pleasant. So I went back. I was shaking, Public Health called: "Did you get the list?" I told them no. I told them get it yourselves, and take some cops.

Another funeral was held, this one for Mr. U's mother. It was small because Mr. U, his uncle and his uncle's wife all were battling SARS in hospital. Then the uncle died. Only five people attended his funeral because he was a known SARS death.

Mr. U eventually pulled through, but his life and the lives of others in his family are changed forever. Five of them got SARS, three died and those left behind carry indelible scars.

The children will remember being confined to home and their mother asking friends to send their children to stand on the lawn outside the window and perform skits, wave signs and sing songs to cheer them up.

Their mother, Mrs. U, remembers the panic and the confusion:

> That's what bothers me, is they allowed fear and panic to take over, and fear and panic is indicative of a lack of knowledge, not about the disease itself, but about procedure. And then right into the community, that people don't understand that a quarantined home is not a house of plague, there is a difference … lack of information results in extreme responses that only makes the situation worse for everyone involved, and that's when you watch everything break down. The school systems break down in terms of response, public health breaks down in terms of what it can handle.

Mr. U will remember the fear:

> I tell you, the fear, the gripping fear, that's what I will remember about SARS. Not so much that I was afraid. Sure I was afraid. It was the fear on the part of others, particularly the medical personnel. They were scared out of their minds. And as much as I can appreciate them being

> scared, what I cannot appreciate is that they still had to do the job, although they were scared. Some could, some could not.

He sums up the SARS tragedy in four words:

> It's a horror story.

Not Being Able to Say Goodbye

Mrs. J[808] suffered the torture of not being able to be with her husband when he died in hospital of SARS. As if that was not enough, she was unable to locate his body for 10 days and had no say in determining his final rites.

Her husband was 68 when he suffered a stroke in late February 2003. He was treated in hospital, then sent March 20 to a rehabilitation hospital where he later developed respiratory problems and a fever. He was transferred to hospital on May 13.

Mrs. J visited him daily until the third week in May, when the hospital was closed because of SARS. She never saw him again because he died of SARS on June 16. Her husband's body was taken away for autopsy, but no one told her:

> He died the 16th and I did not know what had happened with him to the 26th. Because they told me that he died and he is going to be cremated and I made arrangements with the funeral home and I told them, you know that you have to find out where is my husband's body.

She couldn't find out what happened to the body so she called a funeral home, where the operators made some calls and located her husband's remains. She said:

> It was terrible. I called everywhere I can call and they did not tell me anything. That is the truth. They did not tell me that he died of SARS, they did not tell me where he was taken, they did not tell me that they were going to send him to the crematorium or whatever, they did not tell me nothing. I just found out from the funeral home that he was at the crematorium on the 26th.

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[808] As noted earlier, the initials of SARS victims have been changed. In this case, the initial J does not correspond to the victim's name and is not related to the J family whose story is told in the Scarborough Grace chapter.

After telling the Commission her story, she broke into tears:

> I was a piece of glass; they looked through me.

Who Will Look After the Children?

The strained health system, stretched medical staff and a general lack of preparedness created special hardships for families with young children where one or more family members became ill.

One such family, the Ps, gave a detailed account of their ordeal to the Commission. It took four trips to emergency before Mr. P was diagnosed with SARS. The family are members of the Bukas Loob Sa Diyos (BLD) religious community, whose members came in contact with SARS. The BLD story is told elsewhere in this report.

Mr. and Mrs. P had two children, five and 11 years of age at the time. There were no provisions for the children in place when quarantine was ordered and when both parents contracted SARS and required lengthy hospital stays. The children were symptomatic but did not get SARS. Both parents did and survived. The children spent the critical period of their parents' illness in hospital. The parents had to deal with heart-wrenching anxieties, including the possibility of having to turn the children over to Children's Aid.

The Commission drew attention to this problem in its second interim report:

> Whatever legal authority there is for quarantine, it will only work if emergency response plans provide the resources and machinery to help those who must go into quarantine … For those individuals with children at home, the hardship and stress of quarantine proved to be even more overwhelming.[809]

Mr. P became ill on April 1, 2003. He was not feeling well at work and came home with a high temperature. After a couple of days, he phoned his family doctor, who asked him whether he got his flu shot. Mr. P hadn't, and the doctor prescribed anti-flu medication over the phone and advised Mr. P to drink lots of fluids. Mr. P did not get any better and his wife called an ambulance to take him to hospital. He was diagnosed with pneumonia. He made two more trips by ambulance to the emergency room. Each time he was put in isolation, x-rayed, diagnosed with pneumonia and sent home.

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[809] SARS Commission, second interim report, pp. 259-60.

Mrs. P sensed that something was drastically wrong and on the third trip tried to get the doctors to admit him:

> For the third time he ended up in the hospital after I called the paramedics … he was examined, put in the isolation, just following the usual routine, being placed in the isolation room and being examined again. And this his third time visit the emergency … .
>
> When the doctor came to examine him, he was told that he's experiencing pneumonia and he was prescribed sleeping pills. He was given a sleeping pill … I was concerned when he called me and I decided that I wanted to speak with that physician who examined him at the emergency.
>
> I got a hold of the attending physician … I pleaded with him that this was his third time at the hospital and being told that he only got pneumonia … I told the doctor that I'm only a housewife and I don't know what to do with him anymore, and I'm very, very much concerned about his condition, having the high fever and all the flu-like or pneumonia-type symptoms. And I pleaded with the doctor that they have to keep him for further tests or whatsoever for further examination.
>
> But then I was told that I should come down and pick up my husband so that they could attend to other patients at the hospital. My plea to that doctor was ignored. I could not do anything but go to pick him up … we just went straight home. We just prayed to God that being told three times by different doctors that it was pneumonia, we'll just take it from there.

Mrs. P became exhausted taking care of her husband at home. She booked off work and kept her kids home from school. She became more desperate until a nurse friend suggested taking Mr. P back to the hospital. She called the paramedics again and took him to hospital:

> I was saying to the nurse that that's his fourth time in the emergency and – and he already finished his antibiotic by that time and his condition

> was really, really worse … About three or four hours later I was told that they're keeping him in for further tests. I should go home.

The next day Mrs. P was advised by the doctor in the infectious disease department:

> that I should quarantine myself and the children and it's already been confirmed by them, after doing numerous tests, that he is a probable SARS patient … and I was advised to stay in the house and that we're all being quarantined and that I would be hearing from public health to advise me what to in that situation.

Mrs. P developed a high fever and her daughter, too, was showing symptoms:

> But then my daughter woke up maybe around 1:00 or 1:30 and crying about the pain on her ankle area. I was aware that one of the symptoms is feeling the fatigue and having joint or muscle pain, being associated with a high fever. I was very concerned about that and she's flushed with rosy cheeks and the high fever … I decided that we have to call in for paramedics.

When the paramedics arrived, Mrs. P told them that the instructions from public health were to take them to the hospital where her husband had been admitted. But the rules called for the ambulance crew to take them to the nearest hospital, which they did.

Mrs. P and the children were kept in an isolation room well into the next day. She kept asking that her husband's hospital be contacted. She managed to reach her husband on a cellphone. He said the hospital had been looking for her and the children. A bulletin about the BLD congregation and its contact with SARS had now gone out to hospitals. Arrangements were made to admit her and the children to hospital:

> They were taken in a separate ambulance directly to [hospital], accompanied by a nurse … a female nurse. She was very, very good with my daughter, carrying my daughter. And of course we all cried.

Mrs. P, who was now admitted to hospital, started telephoning to get information on the kids:

> I got a hold of the emergency department to inquire about my children. And I was only told that they're okay and someone will get a hold of me later that evening.

The parents were able to speak to the children by telephone. Friends and relatives visited the children, who were in separate but adjoining rooms.

Mrs. P took a turn for the worse. She was transferred to the intensive care unit, intubated and treated for two weeks until she recovered. The doctors wanted to intubate Mr. P as well, but he pleaded with them to hold off so he could continue talking to the children on the telephone. Mr. P said:

> I pleaded with the doctor, I said, give me a couple of more days. If I don't improve, okay, go ahead but right now I have to talk to my kids and my wife and make sure that they're okay. I was already having problems breathing, just a few steps walking around a few steps, I would grab something. I was already huffing and puffing and was getting dizzy already. And then my wife got worse. She was taken to ICU before me. She was intubated and, I mean, the, she was already intubated, she was taken for ICU intubation and that made me even worse now because now my wife that, won't be able to contact my kids.
>
> I told my kids that they are taking my wife to another room with no telephone but she's okay and that the doctors just decided to separate us now rather than put us in the same room. So I lied to them just to prevent them from worrying. I called them every time and every time it's very hard, emotionally because they're pretty young kids and I was already thinking about what would happen if something happens to my wife and then something happens to me. Where are they going to go?

The children spent a month in hospital. So did the parents. All recovered.

The Pain of Visitor Restrictions

Two other families who lost relatives to SARS told of how hospital visiting restrictions made dealing with the deaths so much more difficult.

One family had organized hospital visitation shifts to be with their father who was dying of cancer. SARS then forced hospitals to impose restrictions. A doctor wrote a letter that the family was to show to hospital security staff. The letter noted that because the father was dying, one family member at a time could be at his bedside. When the man's son arrived to take his shift, a security guard took the doctor's letter and threw it in the trashcan.

A daughter-in-law told the Commission about what happened next:

> My husband got very upset and tried to explain that his father was upstairs dying and he had to be there. But the security officer took it upon himself to disregard the special permission letter. My husband had a verbal argument with the security officer and they were about to phone the police and have him arrested for causing a disturbance until I happened to intervene and calm everyone down. With our insistence the security officer called upstairs to the nursing station to find out if indeed we were allowed in and sure enough we were.
>
> You can imagine what my husband went through knowing that he may not be able to be with his father in the last moments. All because of what we judged was a security officer who thought his shoulders were a little too big and let a bit of power go to his head. Unfortunately, though, he had no compassion or common sense.
>
> Perhaps in the future the security personnel who are hired should be a little more experienced in dealing with the public rather than just night patrolmen who really can't handle such extreme circumstances.

The Commission notes again that these stories are told entirely from the victims' perspective. This story and others, however, confirm the need to establish workable systems that in future outbreaks will help hospital staff do their jobs while assisting visitors to connect with those who are ill.

One Daughter's Loss

Mr. I was a 62-year-old family patriarch who succumbed to SARS. The outbreak turned the life of his family upside down and left many of its members traumatized. How it happened and the events leading up to his death contain elements of nearly everything that went wrong during the outbreak in Toronto.

There was a wrong diagnosis, bad communication, misleading or inadequate information, fear and stigma.

The story begins not with Mr. I, but with his adult daughter. She was a part-time clerical worker in a hospital, and was asked on a Saturday in March 2003 to help a nurse lift a patient out of his bed. It was not her job, but as a part-timer who wanted to keep her job, she was accommodating. Unknown to anyone, the patient had been in contact with SARS in the hospital's emergency room.

Several days later, she developed a fever but didn't think too much of it and so went to work. When she returned home she told her family that she still was not feeling well and that she still had a temperature. Her family and her parents shared a home. She called the hospital's health and safety department several times and left messages, but never received a response.

A couple days after that, she went to see a general practitioner who told her she had sinusitis and prescribed an antibiotic. Her condition worsened and by early Sunday morning, around 4 a.m., she went to another hospital, where she was x-rayed and again told that she had sinusitis.

Not feeling better by Monday, she telephoned public health. After a brief conversation, the public health worker asked to speak to her mother and said: "I think your daughter is having symptoms of SARS."

The health worker arranged for the woman to be admitted to the hospital where she worked part-time, but she was transferred to another hospital. The husband delivered her to hospital and when he returned home two or three hours later learned that the whole household would have to be quarantined and that they would have to clean her room and wash anything she may have touched.

Toronto Public Health sent them N95 respirators to wear and they settled into a routine of using one set of dishes and cutlery per person, washing everything with bleach for 20 minutes. The family had no dishwasher.

After five days, the family patriarch showed no symptoms and returned to work. The family said he thought he had finished his quarantine. His wife, who was keeping track of everyone's temperature, checked his, and it was 36.3°C, within the normal range. Mr. I worked a 12-hour shift and when he got back home, his temperature began to climb. It rose to 38 and an hour later was 38.2. He had no other symptoms and said he was feeling fine.

His condition worsened during the weekend and into the following week. He lost his appetite and was experiencing shortness of breath and coughing. His son-in-law was showing symptoms too. The two drove to a newly opened SARS clinic. The clinic admitted Mr. I. The son-in-law returned home. To the family's surprise, he rang the doorbell rather than using his key. He said:

> They told me to be in strict isolation.

His mother-in-law cleared out a room for him. As she shut the door after him, she wondered why they sent him back home.

Mr. I's return to work after five days of quarantine turned out to be a big mistake. He had infected a co-worker and his place of employment had to quarantine everyone and shut down. The infected co-worker recovered.

The co-worker's illness and the economic impact on the enterprise weighs heavily on the surviving family. The media reported that Mr. I had broken his quarantine. However, the family maintains that they misunderstood how long the quarantine should last. The family told the Commission that on the day Mr. I went to work, he had a normal temperature and showed no symptoms.

Following Mr. I's trip to work, Public Health kept close check on the family's quarantine. They sent inspectors to the door and telephoned frequently.

It took a long time to get word to the family about Mr. I's condition after he was admitted. Hours into the night after the son-in-law's return, there was no word to Mr. I's wife about what was happening. There was no further word from the hospital into the next day. Mr. I's wife slept with her phone by her bedside, waiting for word, but the hospital never called. Her niece called the hospital, pretending to be Mr. I's daughter. She was told that he was in the intensive care unit and that he had a chest tube to drain fluids from the lungs.

It was more than two weeks before Mrs. I was allowed to see her husband. He was getting worse. She had to ask permission from the hospital and Public Health. The rules were that a person had to face imminent death before relatives were admitted. In fact, he lived several weeks longer. He was admitted on April 3 and died on May 25.

His wife went to see him every day. But his children were less frequent visitors. They had gone back to work and visits to the hospital did not go over well with their bosses and co-workers. One was even afraid of being fired after her quarantine ended.

SARS or its symptoms played havoc with various members of the family: Mr. I's wife, his two daughters, his son-in-law and one of the daughter's two children. Their temperatures were continuously checked during the quarantine period and when the six-year-old's went up suddenly and he lost his appetite, the family took him to a SARS clinic for a checkup.

The clinic decided to send him to hospital. They would not allow the mother to ride with him in the ambulance. She was near the end of her 10-day quarantine, still wearing a mask. The hospital would not let her in. Another relative had to bring some clothes for the child. The boy spent seven days in the hospital by himself. He had no visitors but he was in almost constant telephone contact with his mother. He even went to bed with the phone. Fortunately, he did not have SARS.

The family members are upset about the lack of information that was given them during the crisis. They have gotten on with their lives. But the widow still takes her own temperature every day and writes it down. "It's for my own peace of mind," she is reported to have said.

The point of this tragic story is not whether the father knowingly broke quarantine, and nothing would be gained at this time by an investigation into the issue. The story shows how the quarantine system depends on voluntary cooperation and systemic supports that encourage voluntary compliance.

The One Left Behind

He's not 50 yet, but Mr. K already is talking about having a shorter than usual life expectancy. But he considers himself lucky because he has a life after surviving a SARS cluster within his family. He survived, but his mother and younger brother didn't.

It began in early May 2003, when his mother, in her early 80s, broke her hip at home and was admitted to hospital. She was there for two or three weeks, and Mr. K and his younger brother took turns visiting her. She developed a fever and so did the two brothers.

The younger brother died of SARS June 19, followed by the mother two days later. Mr. K could not attend the funerals because he was in hospital fighting for his life.

Their deaths were part of the second SARS outbreak and it is Mr. K's personal belief that hospital precautions were relaxed too soon.

When his mother was first admitted to hospital, Mr. K said security and precautions were tight and visitors had to wash their hands and wear masks. Later security began to loosen:

> I firmly believe that the loosening up has something to do with Toronto trying to say SARS is behind us and so on. I think the hospital was under pressure to loosen up so that it won't be seen as "we still have the virus around." I think if the hospital did not relax precautions my brother might not get sick and I might not get sick.[810]

Mr. K had pretty much recovered from the effects of SARS. He is thankful that when he returned to work he had the full support of his employer and colleagues:

> When I walked into the office no one avoided me, which is important. Being accepted back into society is important. I'm not sure everyone was that lucky.

The scars of SARS remain on his family, however. He has lost close contact with his brother's widow:

> My sister-in-law definitely does not want to talk about that and doesn't want any people to know about it. I think she went through a prolonged period of denial. Even now she doesn't want to talk to me or my family.

Missing Mementos

Sometimes things that might appear less significant in the broader picture are the memories most remembered by the victims. Little things can provide some comfort in times of grief. Or like a drop of water in a dam that is on the verge of overflowing, little things can tilt the balance.

A 77-year-old woman went to hospital suffering from diverticulitis. While in hospital, she contracted SARS and later was transferred to another hospital, where she later died. On arrival, paramedics placed her personal effects, stored in a plastic bag, under the bed. The bag contained her wedding rings, glasses, credit cards and false teeth. Somehow, it went missing and was never found.

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[810] This perception, not uncommon, is discussed elsewhere in this report in the context of the relaxation of precautions through the Ontario system.

Her daughter told the Commission:

> So we ended up burying her without her teeth, without her wedding rings, without her glasses. She was buried with my sister's glasses and stuff like that. It was very difficult.

Added another daughter:

> That was the final indignity. I keep hoping that I will wake up soon.

Secrecy, Insensitivity and Stigma

Victims often perceived the lack of information about SARS to be secrecy imposed by the medical establishment. They could not get clear answers they felt they needed to help them deal with radical changes in their lives. For instance, a man was in hospital dying of cancer and became exposed to SARS. His wife developed a slight fever and was admitted so she could be monitored and be with her dying husband. The husband died and the family wanted to plan his funeral but could not get an answer on when their mother would be released. She had been in hospital for more than three weeks but never displayed any signs of sickness other than fever. As one family member told the Commission:

> They had already observed her for so long and she hadn't displayed any sickness of any kind except for a broken heart.

During the funeral planning, the funeral home called and said the father had died of SARS. There would have to be special handling of the body and a glass enclosure for the coffin. The family felt the father died of cancer and did not want the stigma of a SARS funeral. They were plunged into a frustrating search to get a definitive answer on the cause of death:

The coroner's office said an autopsy had not revealed SARS. A second autopsy test determined the same. However, Public Health authorities said there had to be a SARS funeral because they didn't know what they were dealing with.

The hospital discharged the mother, but she still could not attend the funeral because she was quarantined. As the family told the Commission, the loss of their father was compounded by what followed his death:

> What should have been a huge Italian funeral with several hundred people turned out to be a funeral with little more than 50 people in attendance. Nobody wanted to come to a SARS funeral and those that did kept their distance.
>
> Nobody would answer any questions that we had. Nobody would tell us if my father-in-law or mother-in-law had SARS or what their suspicions were.
>
> You can imagine my mother-in-law, who barely speaks any English and doesn't believe that she was sick in the first place, watching her husband's funeral on television and wondering why these people made her go through this.
>
> All she wanted was a little bit of honour for her husband as she was not only robbed of that but also robbed of the closure to his death. She lives daily with questions that have no answers and no faith whatsoever in our health care system.
>
> My family has gone through such a traumatic and horrific ordeal. In the end there is nobody to comfort us. There is a stigma that we are only now beginning to overcome. There are lifelong scars that we will go to our graves with.

In another case, the daughter of a woman who died of SARS said she and her sisters never did get official confirmation that SARS was responsible for her death:

> We would often ask if someone could confirm the SARS diagnosis; we were told that it could take a couple of weeks and someone else said that it could take a couple of months, so we really just stopped asking. We thought when we heard, or we saw in the paper that she was one of the SARS statistics, that maybe the coroner had made the determination but … someone from professional standard, I believe with EMS, said that they had it down as confirmed SARS for the transport so I guess it was confirmed, but we were not told.

Another family told about living with the stigma of a "SARS house."

Ms. Tecla Lin,[811] a nurse who worked at West Park Hospital and whose story is told earlier in the report, lived with her husband in their family home. When both Ms. Lin and her husband contracted SARS and passed away, Ms. Lin's son found himself trying to settle his mother's affairs, including selling her house, which was mortgaged and costing him heavy monthly expenses. However, selling it for fair market price was hampered by the stigma of being the house of SARS patients:

> In order to remove the stigma of the house, I had to do many things. I had to completely remove all of the personal belongs, possessions, furnishings completely, which meant selling everything, and I did that. Now it is very difficult just because there was so much stuff. There is a lot of stuff and I had to get new furniture, full furniture, and refurnish the house. And I did that and I put it up for sale this week. And it looks great and from the inside, the stigma is completely removed and that was a lot of work and cost a fortune, a small fortune, but that is the price of selling a house with a stigma attached to it.

A Simple Procedure, Then Death

Mr. L was no stranger to hospitals. He had health problems stretching back at least a decade. He had had a liver transplant, a triple bypass and prostate surgery, and he had diabetes. He may have been sickly and not young at 74 but his family did not expect him to die. His visit to the hospital was to get his nails clipped, a medical procedure for diabetics.

The story of Mr. L and his family, as told to the Commission, reflects the confusion in the early days of the outbreak and ends with their complaints about the lack of information and stigmatization within their community.

After the procedure, Mr. L returned home and developed a high temperature. The family doctor suspected a urine infection. His family drove him to a hospital, where they noticed there were more people in emergency than usual. Mr. L was admitted and when his family visited him the next day, things were not going well. He had trouble breathing and a nurse said he had had a very bad night. His breathing got worse and around 11 a.m. the family was told he would be taken to the intensive care unit. At 4:30 p.m. they were told Mr. L must go to another hospital because there was no room in intensive care. At the new hospital, he was taken directly to intensive care. A doctor there began asking the family about Mr. L's liver, and his family recalls:

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[811] Because Ms. Lin's name is already in the public domain, her name is used in this report.

> He had to go back and forth to the hospital so we are used to that. We said his breathing is what we were afraid of. There is talk about SARS going around. Do you think maybe he has it? We asked the doctor. He looked at us and said: "Do you think if he had SARS we would be like this? With no masks?"[812]

During the night the family got a call that Mr. L was transferred to yet another hospital. Here he ended up in a closed room and the family had to wear masks, gloves and gowns. They were told they would not be able to go back. Hospital staff said they were not exactly sure if he had SARS.

Mr. L died while both his wife and his daughter were in the same hospital under quarantine. That is where they learned of his death:

> We told my mom that my dad had died. I went to the bathroom. I just could not take it anymore. I was not crying. I was numb. I said to the nurse, "Can you bring me some Gravol?" I told her that my dad just died and she said, "Oh my God." My 25-year-old son had to go and sign all the papers for my dad because he was the only one not in quarantine.

The community in which the family lives reacted by stigmatizing them. Newspaper clippings about SARS were sent to the home, and a bakery they had frequented for 30 years declined to send food for the funeral:

> After I was out of quarantine, I was walking at the mall to get some shopping and people would walk away from me. We wanted an open funeral and everyone to come but we were hearing so many people saying we do not know what to do, we should not come, but I said everyone is out of quarantine … but there was an outbreak at a funeral home ... and we finally said we will just have a private service, we will not put anyone at risk.

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[812] As with the stories of other victims, the family recollection is described as reported and without verification because nothing can be gained by adversarial inquiry into who said what when. The point is the degree of confusion and misunderstanding that prevailed during SARS.

At the time the family spoke to the Commission, they had not received official word from the hospital about Mr. L's cause of death or his medical file.

Death While Waiting

SARS ended the life of a 79-year-old woman because she stayed in a hospital while waiting for a room in a long-term care facility. She lived alone and was taken to a hospital emergency room after she fell and injured her eye. Doctors said she was in good health, except for diabetes, high blood pressure and other health issues. They decided she should not live alone and would stay at the hospital while waiting for a long-term care opening.

She arrived at the emergency room March 6, 2003, and spent three days there before being admitted. Two weeks after Mrs. V was admitted, a public appeal was issued for people who had visited the hospital's emergency room to contact Public Health. Family members who contacted Public Health recall being told since more than 10 days had passed, they were in no danger.

Family members visited Mrs. V on March 21 and 22 and wore no masks and no protective clothing, believing that SARS was contained on the 4th floor. A few days later there was a public announcement that anyone who had even "delivered a package" to the hospital must go into quarantine. They did, but they had no contact with Public Health, which they had called following their first visit. The family members showed no SARS symptoms and did not become ill.

Mrs. V died at the hospital on April 26, almost six weeks after she arrived there. Relatives were not allowed to visit but kept in daily contact by telephone. Near the end, they were told they could visit but they did not want to take a chance of getting SARS.

Said one of her daughters:

> I really feel deprived of those last moments with her. It's not like she was bedridden, sick and dying. I have not had closure.

Communicating Death by Telephone

One of the many horrible aspects of SARS was how relatives were told that someone close to them had died. Some people learned about the death of their relative while sick in hospital themselves. Others received telephone calls because SARS prevented them from being at the hospital.

The case of Mr. and Mrs. B illustrates the pain and confusion suffered by so many when SARS took a life.

Mrs. B was a healthy 89-year-old who lived with her husband, 87, in their own home. In May 2003, she fell and broke a hip. Doctors operated and successfully repaired the hip. Her daughter recalled:

> She came through with flying colors. They'd already had her up. They wanted to know about convalescent care.

However, one week later doctors reported Mrs. B had SARS and had her moved to intensive care. She died the next day.

The daughter and some other members of the family were vacationing in Las Vegas at the time. They had planned the trip for some time and went ahead with it when Mrs. B did so well following the hip surgery. They were told of Mrs. B's death when they stepped off the plane on return:

> We were landing. We didn't know. We get off the plane and my son-in-law and my grandson were there to meet us and, of course, looking at them I knew something was wrong and that is when they said that she had passed away.

The daughter and her husband had been at the hospital before their trip to sign papers related to Mrs. B's convalescence. They were told they would have to go into quarantine and wear masks sent to the airport for their arrival.

Mr. B was on his own at home. The hospital had phoned him to tell him his wife had died. His daughter was unable to help him because she was in quarantine. She recalled for the Commission:

> There he was in the house, left alone, told of her death like that and told

> that he had to stay in the house. The health department said he had to take his temperature each day. Nobody would go into the house, so they dropped off the thermometer at his doorstep for him to take his temperature. He had started at the time with some early dementia and I think the confusion was even worse.
>
> He took his temperature one day and he phoned and said it was something like over 100. He was reading something 102, 104, and I said well, it can't be. So I phoned the health department and they said just tell him to put his thermometer in the cover outside the door.

His daughter went to see him as soon as her quarantine ended. She found that he had lost a lot of weight and was very depressed.

The family's troubles did not end there. Mrs. B's grandson, the daughter's son, was also quarantined. He did not tell people in his office why he was away until his quarantine was over. She said:

> They almost threw him out and said, how could you do that when there were other people at risk who had families.

The family had problems finding out exactly how Mrs. B died. The doctor involved was not available. A nurse whom the daughter reached could offer no help. The phone call informing the grandson that she had died said only that a nurse found she had died during the night:

> I have a real problem with that because I have no idea how she passed away. Was she looked after properly? I got no answers. To me, that is so wrong. Nobody should die alone.

Compassion in the Midst of Horror

These stories are painful to read, let alone to experience. However, not all was gloom and hurt for those who suffered through SARS and survived. There were stories of courage, hope and kindness. Some are reported elsewhere, but the following two are noted because they relate directly to victims and their families.

One involves a widow who was quarantined in hospital after her husband died of SARS. She was alone and frightened, and hospital staff avoided her because of their fear. They entered her room only to take her temperature – except one nurse who went every day to her room for 10 to 15 minutes, and talked and comforted her.

There is also the story of another widow comforted by another nurse. During the crazy days of her husband's illness, the woman met a nurse who pressed a piece of paper into her hand. The nurse said to call if she needed help. After her husband's death the widow did call. The nurse came to her house and took her out for lunch.

Health Workers

Nearly one-half of Ontario's SARS victims in Ontario were health workers, doctors, nurses, lab technicians, cleaners, ambulance drivers and others who daily walked into the face of SARS. Unlike the rest of us, they had little choice. SARS was where they worked and they couldn't run away from it, even if they wished.

The experiences of the health workers who became ill with SARS are especially chilling because they are so unexpected. We don't expect our doctors and nurses and other health staff to get ill, even though this is an unreasonable expectation. We particularly don't expect them to get ill because of their work. We like to see them only as the knowledgeable professionals who try to keep us safe from disease and who look after us when it does strike us. When they begin dropping ill, we realize we are in a health crisis in which we are all at risk.

Because they are so important to us, we often view them as if they are not subject to vulnerabilities. But they are humans. They are people like us who worried, became tired and watched their personal lives suffer from putting in brutally long hours in the fight against SARS. They lived in constant fear that they might infect their families. Hundreds of them were quarantined, which often meant forced separations from their families. Many faced ostracism by colleagues and neighbours and, whether quarantined or not, had severely limited contact with family and friends. At times the fear and ostracism lasted for months after SARS finally ended.

Some of the saddest stories are from those who saw their colleagues suffer, and in some cases die, from SARS. One doctor who lost a member of her team told the Commission:

> When Tecla Lin died it was the worst … I do not think I was very well for a while. I did not want to go anywhere, I just wanted to be home. I was tired … it was like I had been through an earthquake …

Working conditions were difficult for doctors and nurses treating SARS patients, and for their support staff. The experiences of many nurses during SARS have been related elsewhere in this report, particularly in the Nurses' Survey section. One doctor told the Commission of one of the most difficult effects of treating SARS patients, was being shunned.

> We were not allowed to go the cafeteria they were sending sandwiches to us, because we could not go to the cafeteria. If we walked in the corridor and somebody saw us, they would turn around. It was not only my experience, it was the experience of a lot of people … It took me a while to understand the ones that had been nasty to me.
>
> I will let it go. I have to work with them anyway. But something I feel, feel that there are two kinds of people, those who will and those who will not ... when they tell you are not welcome here in this room. You cannot be here, you are not responsible by coming in this room ... it is a stigma ... it is not nice. I mean, they are all physicians for goodness' sakes, and health care workers, and they are behaving like old maids.

The same doctor had praise for many who did pitch in:

> I can tell you that the people who worked in that unit were all extremely dedicated people, that I will work with them any time, because it was a risky situation.

Being a medical worker did not seem to help those who were unfortunate enough to become infected with SARS. No one can say that they received preferential treatment. The experience of one hospital nurse illustrates that. It also shows the difficulty some doctors had in diagnosing SARS.

One nurse who worked in a hospital that had SARS patients answered a call from a patient in a special unit and became ill over the following days:

> I wanted somebody to admit me at the hospital. So I went to hospital ... and then I waited there for seven hours and the doctor there sent me home. He said I only have a urinary tract infection. I asked him, should I have a chest x-ray. He said no.

During her seven-hour stay, she didn't get anything to eat. Just water. Ten days after her contact with the infected patient, she was admitted to hospital. She was sent home after four days.

No one from her own hospital called her to tell her about the SARS outbreak there. She found out from colleagues that one of her co-workers had died and seven people on her floor were sick. She recovered and tried to resume work but found she was too tired, and retired from nursing.

Hospital settings were familiar to the health workers who became ill. Sometimes that made their hospital stay more difficult since most had been in contact with death during the course of their work. One hospital lab technician had been in quarantine at home when she experienced SARS symptoms and was admitted to hospital.

She recalled that one nurse refused to make up her bed:

> I know that some of them didn't really want to be in the room. So she refused to make my bed. She just threw my stuff. I said, "You don't understand, I need to clean the bed, I've been sweating a lot, I need to change the bed right down and make a clean bed." And she just refused to do it and she said I have to do it myself. And I could hardly stand up. I was really upset over that ... I had other nurses who came in the morning and changed the bed. I didn't have to ask them.

This and a handful of similar stories stand in stark contrast to the compassion demonstrated by the majority of nurses and other health workers.

As Dr. Avandano of West Park Hospital told the Commission, there were many health workers from all areas of the hospital who worked very hard to contain SARS:

> I suppose we were enough, or maybe at times we were not enough, but I can tell you that the people who worked in that unit were all extremely dedicated people, that I will work with them any time, because it was a risky situation. The staff that cleaned, the housekeeping, did not want to go either. So we had a woman that was absolutely amazing, she was always there working, washing and cleaning. And at one point, [something spilled on her] and she was in a panic, and we just washed her. The pharmacist was all the time there, from eight o'clock until eight o'clock at night. The infection control nurse … was all day there, the ward clerk in the TB unit worked there with his mask because there were so many papers coming and going.

By far the greatest fear among health professionals was the fear of bringing SARS home to family. What could be worse than infecting the people you love the most? As one health worker said:

> I was more frightened of taking it to my family. I did not see anybody, did not touch anybody for almost two months. It was the hardest. You do not realize what it is to look at people's faces and to shake hands and to touch. You do not realize until you do not have it … for instance, we were not to go to any stores, so we could not go to a store, we could not go anywhere, and yet we were working in quarantine. So you go home, and work, home and work, you do not go anywhere, no social life, nothing, nothing, nothing …
>
> I have two grandchildren that are very, very young. My daughter would pass with them on the front sidewalk when I was home so that I could see them … I did not want to infect anyone. I was terrified of infecting somebody else.

Another doctor described for the Commission how hard it was to deal with precautions and protective equipment. Those treating SARS patients or suspected SARS patients started by using a surgical mask, gloves and a gown. Later the mask was replaced by the N95 repirator, headdress and goggles when examining or treating patients:

> … And we realized how difficult it was to maintain those precautions, so once you came out of the room, and you disrobed, what happened then? Should you take your mask off? What happens with contact with your hands? I mean doorknobs, hand railings, how about charts, paper, pens, I mean everything and anything. It was so hard to know exactly what to do. So, again eventually we simply donned another gown, started keeping the mask on, we didn't wear gloves … but that was a huge question. We were more certain what to do at bedside … But the big questions, even to this day continues to be is what should the team members do when they leave the room? You know, they are still on the same floor, you know, the rooms of the patients are 10 feet away, what do you do at the nursing station, I still think that is a big issue.

Like others who treated SARS patients, he experienced fear from friends and acquaintances, in one case months after the SARS wave had ended:

> I was in a restaurant. We were having a gathering. There could have been 14, 15, or 16 people. It was someone's birthday. A close friend of mine … we were sitting relatively close together ... By mistake, they gave him mine [food dish], and I got his, well, I didn't realize this so I took a

> morsel, a single morsel off his plate, with one of the vegetables, and you should have seen the reaction when I said, "Here's your plate." His wife and his sister said, "You can't touch that."
>
> I just looked aghast, I said what are you crazy? It's a month later, you know my wife, my kids, my mother, a lot of friends … I've shaken hands, I've hugged, I've kissed, you know, it's not a big deal, it's gone, forget it, and you know what? He, he would have been okay had it just been him and me, but I think it was everybody else around him. It was a silly little thing, but I couldn't believe that eight or nine months later I was still a bit of an outcast … I think if had I used my fingers, I would have understood, but with a fork?

Another nurse became ill with SARS after she looked after a patient in her hospital's SARS unit. The illness played havoc with her personal life and she still suffers some effects. Although her story has a terrible beginning, it does have a happy ending.

She was saving up to go to the Philippines to be married when the illness struck. As she told the Commission:

> We planned to get married there, to have the ceremony there, since our family and my husband's family are all there. We planned to have the ceremony in 2003, the summer 2003, but since I got sick, we changed our plans. We let him come here, use his visa, but I wasn't recovering well yet, so instead of coming here to Toronto, he went to Vancouver for a month so that his visa would not expire. But at that time it was so sad because I had SARS so we have a problem with his family, of course I cannot blame his family, they were discouraging him from coming over because they learned that I was sick. [They feared that] he might get infected too.
>
> I was so scared that the wedding would not be realized. But he really proved to them that he loves me and no matter what he said he would still come to marry me. He actually wanted to come to look after me because even though I was sick already … My mom was the one doing the household chores for me since I was so sick. I was always tired, so that's why he wanted to come over. I asked him to stay in Vancouver for one month, because I needed some time. Then in August 2003, he came [to Toronto] and then we got married on September 25th.

The couple waited two years to have a child because she was prescribed the anti-viral drug ribavirin, which is deemed to be unsafe during pregnancy:

> So, to make it safe, we did it after two years. I got pregnant after two years. It was so scary still. Maybe I was just paranoid, but I know that I had that medication, I was sick. I don't know what the long-term effect of that will be. Even now, I have severe headaches. Sometimes I am so short of breath and still last year, my blood was not normal. And when I got pregnant and I had my ultrasound, …they said that I am carrying a Downs syndrome baby. So it scared me … but when I gave birth, [the baby] was healthy

When a health worker gets sick, the effects on his or her family can be profound. One nurse worked at a Toronto hospital but lived in a city out of Toronto. She became infected while helping to admit a patient. The hospital did not know he had SARS.

She was admitted to a Toronto hospital and her husband and her three school-age children had to go into quarantine in their home city. She recalled her experience in an interview with the Commission, explaining what was going through her mind:

> Just the dread of possibly infecting my family was the first thing that went through my mind. This fear for my family and then just the anxiety of not knowing whether or not I was going to have it … And it's very tense trying to explain it to my husband and my kids. Wondering how it could happen. I don't think that kind of feeling, that kind of resentment hit until I was actually hospitalized.

The husband set up school for the children at home. As she told the Commission:

> You know they would sit in our family room and he would ring the school bell and sit them down to do their homework from nine o'clock and then they would have recess when they usually had recess and lunch when they usually had lunch and then at three o'clock they were allowed to watch cartoons like usual.

The neighbourhood kids were not so understanding:

> There were some kids that were just targeting the house. You know teenagers, what else is there to do, I guess. So they were throwing bottles at the house and trash on the lawn and stuff like that.

> For the most part I truly believe most had no idea what was going on. Locally it wasn't big news so I guess most people, if they heard about it, didn't really associate it with something [there]. I had one neighbour who was very, very helpful who brought supplies to the family.

She said her husband faced some shunning after his quarantine:

> He went into the bank and they were covering their faces or some silly thing like that. You have to expect that kind of thing because people are not sure what to do and they want to protect themselves so I didn't really hold that against them. It wasn't that bad.

The nightmare of passing SARS on to family came true for one doctor who contracted SARS and infected his 15-year-old daughter. Both survived. The dramatic impact on the family was relived on the first anniversary of the Toronto SARS outbreak on the TV Ontario program *Studio 2*.[813]

The doctor noted that anesthetists sometimes resuscitate people and this has never been a problem for him, even when he had to try to resuscitate a woman with leprosy using the mouth-to-mouth method. But SARS was different:

> We had an elderly man who was quite ill in the intensive care unit whose breathing was getting quite distressed. I happened to be the first available anesthetist that morning that entered hospital so I was asked to go and help out in the situation. And you have to bend down and look within a few inches of the patient's mouth. And even just that few seconds it took to do that I guess I was right in the stream of the virus being breathed in and out and I got quite a wallop of it. So even with the mask I had and that, I got I guess enough of it around the edges of the mask to become ill myself.
>
> It happened so fast. I guess I was more like one of the sort of front-line border troops in a war that just got sort of mowed over by the initial blitz.

When symptoms appeared, he went to the emergency department. Several other medical staff were showing up with similar symptoms and all were sent to a newly opened SARS ward at another hospital. He lost 20 to 25 pounds and became jaundiced from the side effects of the drugs, and anemic. He became extremely weak. As he said:

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[813] TVOntario transcript, *Studio 2*, March 15, 2004.

> And it got worse when I found out my 15-year-old daughter had gotten sick and was admitted and probably had SARS as well.
>
> When she got sick, I really felt somehow that maybe I should have, you know, immediately just put myself into isolation as soon as that – as soon as I was in contact with that patient. So yes, I certainly did feel a lot of guilt there.

His daughter also spoke on the TV program:

> I never was angry. I was never upset at him. I didn't want him to feel guilty. It made me sad that he felt that way.
>
> It all happened in a matter of hours. I started to feel really fluey, got into the shower and within half an hour I was feeling really bad. It was like a flu but it was, I would say, ten times worse. When you breathe, you feel pain in your chest and when you try to cough it's just like fire coming out your throat.
>
> The ambulance came and all of a sudden these guys come out in these outfits that looked like space suits and it sounded like Darth Vader and it was like the scene from *E.T.* when the people come in and take him away. It was like that. And just the sound, everything was really strange and really scary and frightening. I could not stop crying.
>
> There were a few moments when I thought to myself, I'm gonna die. I knew that it was really serious and there was a woman down the hall from me in the isolation ward and she was really sick, and she was screaming and really disoriented and crying. And then I found out a few days later that she died.[814]

The daughter recovered and was in quarantine for about two months and, of course, missed two months of school but she said the experience changed her:

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[814] TVOntario transcript, *Studio 2*, March 15, 2004.

> I was just sitting in my room alone and didn't know what was going to happen. I had a lot of time to reflect and to think about the way I was living previous to this. I had really, really negative self-esteem, really bad image. And throughout that time, I just only had myself and God and just my thoughts and I had to sort everything out. And I came out feeling just completely more connected with myself and had this really good relationship with myself. I was really happy. I was really positive. I thought, wow, I'm really a survivor of something this dangerous, this scary.
>
> It was a wake-up call. Whether or not you admit it, everybody takes everybody for granted, you know. Your family is always there. When somebody almost dies or somebody is really sick, when you get better you're that much more thankful for it.
>
> What gives me comfort is to know that believe it or not you cannot control many things. And sometimes you just have to take it a day at a time and see what happens. Just live your life and follow your goals and dreams.[815]

The doctor also fully recovered. As he said:

> I was lucky. I got over the physical stuff pretty promptly. By the time the quarantine was over I was actually basically sick of being sick. I found that first going out, even just walking, it felt like a walk around the block was a several-mile brisk hike. But within a month I was right back to where I had been before.[816]

But his daughter worried about her dad when he went back to work:

> I thought that maybe new diseases would come back. If something like that happens, well, what else? There are probably millions of other diseases we don't know about.[817]

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[815] TVOntario transcript, *Studio 2*, March 15, 2004.

[816] TVOntario transcript, *Studio 2*, March 15, 2004.

[817] TVOntario transcript, *Studio 2*, March 15, 2004.

The Case of Dr. X

Early in SARS a nasty public controversy erupted over whether a health professional knowingly put hundreds of people at risk when he attended a funeral while sick with SARS-like symptoms. An estimated 150 people were quarantined because of what a public health official painted as an irresponsible action that could possibly spread SARS throughout the community. The media jumped on the story and many people became anxious that the SARS outbreak, already a terrifying situation, was about to get worse.

Dr. Hanif Kassam, acting York Regional Medical Officer of Health when SARS broke out in the spring of 2003, revealed this potential exposure at a news conference the day after Easter. He said the health professional had put "hundreds of individuals at risk" by exercising bad judgment. He went so far as to threaten to have the person charged by police if he did not stay isolated. The *Toronto Star* reported:

> He should have known about the symptoms and taken the necessary measures to ensure that other people were not put at risk, Dr. Kassam told the news conference. He clearly doesn't know the gravity of the situation.[818]

This scathing denouncement was made publicly despite the doctor's evidence that he had no symptoms before the funeral.

The health professional, Dr. X, was a resident doctor at a Toronto hospital at the time and vigorously denied the accusation. He had admitted himself into hospital with SARS-like symptoms after the funeral but protested that he had been symptom free before going to the funeral home and a church. At the time that Dr. Kassam made the accusations, the doctor had been isolated in hospital for almost two days.

Dr. X responded to the public attack and the two doctors fired back and forth at each other in the media, leaving the public trying to sort out the facts. There is much more to this story than contained in this brief summary and the Commission cannot make a finding of fact in this particular case. It can, however, note that the incident is an example of how easily things can escalate in times of crisis. It shows the need for those in authority to keep a cool head and measure their response when emergencies occur. Provocative personal attacks by those in authority are not helpful.

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[818] York Health says he spread SARS, *Toronto Star*, April 22, 2003.

The public fight between Dr. Kassam and Dr. X was unfortunate and unnecessary. It caused considerable apprehension among the public, who were left with the impression that even the medical community, their best defence against SARS, was slipshod. If anything was learned from the incident it is the need for reasoned approaches and calm communication by those in positions of authority during times of public crisis. What was missing in this case was a measure of official restraint and non-provocative language, especially when the battleground of the dispute was the news media.

The Wider Impact

The stories of SARS victims, their families and friends are as plentiful as they are painful and are told in detail in this report. There were other victims who did not contract the disease but who nonetheless suffered from its spin-off effects. These are the hidden SARS victims, those who suffered stress and emotional pain resulting from disruptions in health care, and from the systemic lack of preparation, policies and simple systems to encourage consistent and fair handling of those who needed access to their sick relatives. These systemic failures resulted in great stress and anxiety.

Many hidden victims were members of vulnerable populations: the elderly, the physically and mentally impaired, and those who could not speak English. They had difficulty navigating through a health care environment that is complicated at the best of times but was especially confusing and frightening during SARS. Hidden victims were those who stood by as people close to them died alone because of visiting restrictions. They were people forbidden from accompanying a relative or friend to medical assessments or treatments. In some cases they were people who needed treatments but had to wait because SARS had turned the system upside down.

It is easy now to forget just how disrupted and confused the health care system was during the SARS outbreak. This was a new disease, and the system was unsure how it was spread, how it might be controlled and, in fact, whether it could be controlled completely. It was highly infectious and deadly and it seemed reasonable at the time that health care facilities and their staff do whatever was needed to stop it.

Most people understood the seriousness of SARS and the need for precautions at hospitals and other health care facilities. Many of the hidden victims felt, however, that the health care system was too rigid, cold and uncaring to people struggling with life and death issues. The daughter of a cancer patient, noting a no-visitor policy at a cancer treatment hospital, put it this way:

> I know that this was all for safety precautions. I understand all that but you know when someone in your family is all alone there, then you feel angry at a certain point. You would wait outside and you don't know what he's doing in there.

There were many stories of people being handled with less sensitivity than might be expected. However, in these cases it wasn't simply health care staff being uncaring or mean. Systemic failures, not individual care facilities or staff, are behind what went wrong in the stories of the hidden victims. Lurking in the background of each case are signs of lack of preparedness, lack of policies and lack of simple administrative machinery that could have helped to avoid these horror stories.

The lessons from these stories are: Be better prepared for infectious outbreaks, build better systems to handle effectively all aspects of the crisis, be clear about who is in charge, and above all, communicate regularly and clearly with those affected.

Here are some of the hidden victim stories as told to the Commission.

A Case of Inconsistent Rules

Ms. K recalled how her elderly father became a bystander victim in the management of SARS. He was a patient at a Toronto hospital where he spent five weeks isolated from his family because of visiting restrictions introduced to curb the potential spread of SARS. He was paralyzed from the neck down with ALS, Lou Gehrig's disease. His physician refused the family visiting rights on the basis of hospital policy. The family tried to appeal the no-visitor decision. They called the hospital CEO and its Chief Medical Officer but did not hear back from either. They tried contacting Dr. Colin D'Cunha, Ontario's Chief Medical Officer of Health, and Dr. Sheela Basrur, the Toronto Medical Officer of Health. These offices referred them back to the father's physician, who had refused visiting permission in the first place. Ms. K said:

> I was at the end of my tether. Nobody had explained to us why we couldn't see my father. It was like living in a pressure cooker. I could not

> believe I was still living in Canada. It seemed as if [the hospital] and its physicians had become a law unto itself.[819]

The daughter turned to the media for help. She emailed the *Toronto Star* begging for assistance. A reporter called the hospital community relations department and on May 5 the patient's wife received permission to see her husband. She had not seen him for 40 days. He died two weeks later.

As Ms. K told the Commission:

> I should not have had to depend on the media call to see my father. My own call should have been enough.[820]

She said her mother still is unable to handle the fact of not having been with her husband in the final weeks before his death:

> She is still traumatized that she could not fulfill her cultural and religious obligations to the full.
>
> She is haunted by the memories of those five weeks and what she saw as the cold indifference of physicians in power. She says this cruelty must never happen again.[821]

What was missing was a system through which families who felt unfairly dealt with could appeal to a senior hospital official or team of senior staff. Different health care staff had different views about access or visiting during SARS. Patients and their families should have had recourse to review such decisions without going to the news media.

The Man Who Died Alone

Similarly, a 96-year-old man who had been living with his disabled grandson was taken to a hospital in the Greater Toronto Area, where he was diagnosed as requiring chronic care. The man's daughter and his grandson visited regularly but one day arrived to find the hospital closed because of SARS. The elderly man's condition was classified as chronic, but not critical; still he was not permitted visitors. The daughter tried unsuccessfully to have her dad's condition changed to critical from chronic so visits could resume; however, calls to the attending physician and the man's family doctor were not returned. The hospital said that when the man's condition became grave they would call her and she could visit just before he died. The only call she received was that her father had passed away.

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[819] SARS Commission Public Hearings, November 17, 2003.

[820] SARS Commission Public Hearings, November 17, 2003.

[821] SARS Commission Public Hearings, November 17, 2003.

Fifteen Minutes Too Late

One man told of trying to visit his 56-year-old mother at hospital outside the Toronto area. She was admitted just after Mother's Day, right at the height of the spring 2003 outbreak. She needed surgery on some toes affected by diabetes and he went to visit her before the operation. He told the Commission he was physically removed from the hospital by security staff despite his understanding that his mother had placed his name on a list of visitors and that this was all that was required to secure a visit.

Later he received a call from a nurse saying he should come to the hospital because his mother had had a heart attack. When he arrived he was allowed to go to the intensive care unit without any SARS screening. He talked with a doctor who said he was 15 minutes too late. His mother had passed away.

He described himself as "emotionally wrecked."

This is one more example of the misunderstandings that can lead so easily to a tragic sense of loss when there is no preparedness and no systems to ensure reasonable policies and sensitive communications.

High Anxiety and Nightmares

Enforced separations also created anxiety and pain for people in long-term chronic care facilities and their families. One woman told the Commission how she could not visit and care for her disabled mother for 29 days during the SARS crisis. The facility did not have any SARS cases but imposed visitor bans as a precaution. The mother had suffered a serious brain injury more than two decades earlier. She had been in long-term care since, receiving almost daily care from the daughter:

> I promised her that I would remain at her side for as long as she needed me … I have managed to be at her bedside every day or second day for the last 21 years. I am there to give my mother her personal care, to feed her, to assess her health and to advocate on her behalf.

The visitor bans caused her mother much distress because "I could not prepare her for the sight of staff in their space suits hidden behind their visors, goggles, masks, gowns and gloves." The daughter said:

> My mother will never be able to tell me what her experience was of those 29 days. For me there was high anxiety, nightmares.

The daughter told the Commission that she watched with interest as the Hospital for Sick Children[822] allowed one family member to be with each patient during SARS. A parent was allowed to be with a sick kid, but adult children were not allowed to be with their parent at this long-term care facility:

> I and others feel that we are the parent and our loved ones the child, regardless of our blood relationship.

The daughter also said that the facility used the SARS experience to impose what she called greatly altered, reduced and awkward split visiting hours.

She said:

> The administration has, by their actions, said that we were not needed during the crisis and that we are needed even less now, post-SARS. Of course, if our loved ones could, they would tell them differently. To me it feels like a hijacking. A hijacking of mine and my mother's rights or as if Big Brother has come along and taken over and only when Big Brother says I can will I see my dear mother.

She said long-term care facilities should distinguish between visitors and hands-on family caregivers when deciding visiting hours.

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[822] The Commission is not saying or suggesting that the Hospital for Sick Children did anything wrong. They were following the directives and allowing parents to accompany ill children, as the directives permitted. The point is not that they did anything wrong, but that consideration ought to have been given for the needs of elderly patients.

This woman's criticism of her mother's long-term care facility is understandable. So are the restrictions placed by the home, when seen from an infection control perspective. The key is that these facilities should work with families so that policies blend the need for infection control and the needs of patients and their families. There is need here for discussion and explanation, not simply arbitrary restrictions. Perhaps there is something in the Hospital for Sick Children's approach that could be applied to other facilities.

Impact on the Elderly

Another woman told of how her family suffered trauma when access to her father was denied at both a hospital and his long-term care home. The 81-year-old father lived in a long-term care facility where visiting was restricted then cancelled because of SARS. She said:

> This had a devastating impact on all seniors, both emotionally as well as physically. They might as well have been in prison. Tuck shops were closed. All activities run by the volunteers were suspended.

The father was suffering foot infections related to diabetes and was admitted to hospital. Doctors decided that his legs must be amputated. The day of the scheduled surgery the daughter arrived at the hospital and was denied entrance. The hospital had been closed to visitors because of SARS. She and her sister sat from 6:30 a.m. to 4:00 p.m. in the space between two sets of doors at the hospital main entrance. The father suffered amputations that were more extensive than planned without seeing his family before surgery or after. Both legs were removed at mid-thigh.

He returned to his long-term care home, where he coped but had trouble sitting in a wheelchair without legs as a counterbalance. He developed an infected bedsore. He was admitted to hospital again, this time another one, which was closed because of SARS a few days after he arrived. He was discharged after eight days, but he and his family were put into quarantine because of their connection with the hospital, which had active SARS patients. He had to cope without family help, and when his daughter telephoned a nurse to ask her to look in on him, she was told:

> We are trying to go into his room as little as possible as we are afraid of catching something and spreading it to the other residents.

The daughter told the nurse the quarantine was only a precaution and nurses at the home had been issued protective equipment in the form of masks, gowns and gloves.

The father died unexpectedly on June 22. His daughter said that the next time hospitals are shut down by a medical emergency, seniors should be given the same considerations as children:

> Seniors are much like children. Any change in routine causes extreme anxiety, stress and confusion. Seniors need to be able to have someone there with them during peak times of 7:30 a.m. and 9:00 p.m. Someone to speak for them when needed, to help understand medical diagnosis and treatment, and to help with medical histories. Someone to help them with the simplest task like raising or lowering their bed, with their meals, their personal hygiene and to reassure them, just to be there with them. These are all the things a family member would have been doing for them. To deny seniors this basic right is simply wrong.

Another case involving the elderly shows how SARS impacted the quality of life of many older citizens who came into contact with it. One gentleman went into hospital for a hip operation, contracted SARS, and infected his wife. Rehabilitation exercises are critical in recovering from hip surgery, but he could not complete his rehabilitation program because of SARS. Now he has difficulty walking.

The family was interviewed by the Commission. His daughter described what happened:

> When you have a hip replacement, you've got to be up the next day. Well, he was. I remember the phone call after the hip replacement because he was about four days with therapy. He was so excited that he could walk so much better now, and I remember they were making him do the stairs and he was so happy. And then he got taken with SARS to another hospital and that was it for the therapy. For five weeks he lay in the bed with no therapy.
>
> No therapist would go in with nobody knowing anything about SARS, nobody would even go in the room except the doctor. And even though he was well after one week, they wouldn't take him out of isolation because, well, they would release him to me but I'm untrained. But even if he went home, I tried two different nursing companies, private nurses, nursing companies and the second I said he's going to be in quarantine from SARS, that was it. They said no.

> So I said to the hospital, if trained professionals won't come in because they don't know anything about SARS, I certainly am not a medical professional and able to protect myself or my daughter for him to come into my home or my brother's home. You know, they have children. And they said that's our only option. And it was a big fight with administration.

The daughter enlisted her MPP to get her father released to another facility, where he finished his quarantine in a private room. But it was too late for rehab.

The system, unprepared, could not cope with this man's pressing medical need. A system better prepared is required to prevent this kind of medical damage.

Shifting Policies and Practices

The Commission heard much about the lack of consistency and clarity of rules and restrictions put into place during SARS. A woman told the Commission her family's story of trying to navigate conflicting hospital policies and practices. On March 27, 2003, her father was in such pain from cancer that his wife and son brought him to a hospital in Greater Toronto Area. Only his wife was allowed to accompany him into the emergency department.

The next day, the wife went to visit him but was told by a nurse that visits were not allowed because of SARS. Later, the hospital said they would allow one visitor for one hour per day. Then they said someone would have to telephone ahead and provide the name of the visitor.

Said the daughter:

> And so it went. Each day the rules seemed to change with respect to visitors. Not only with respect to the number of visitors but also when it came to washing our hands, having our temperatures taken or completing the sign-in sheet on the door where my father was staying. Sometimes these tasks were monitored and other times they seemed to be forgotten. It also seemed that some staff members seemed to enforce the rules more than others.

Four days after the man's admittance, the family was told that patient visits were suspended. The family called the hospital ombudsman, their MPP and some other public officials. On April 1, the hospital said it would allow one visitor a day if the name was provided in advance. This policy created a problem when the man's 91-year-old mother wanted to visit. She was blind and hearing impaired and needed someone in the family to escort her through the hospital. The hospital at first allowed this, then changed its mind. The elderly woman had to find her way own way to her dying son's room. Later the man asked to be discharged so he could die at home.

His daughter told the Commission:

> I truly believe that the quality of my father's life during his final days was affected by being kept isolated from his family. He needed our support and we were not allowed to be with him.
>
> What difference would it have made if there was more than one visitor at a time? Or if the visitor stayed for more than one hour per day? Would that really put the hospital at greater risk? I don't think the health care administrators thought about the impact of those restrictions on patients in palliative care. Patients who had nothing left to hang on for, except seeing their loved ones.

Once again it is hard to fault the individual hospital and its staff. They were forced to make up visiting policies as they went along. The health system must understand the vital human importance of visits to the sick. Advance planning is needed to create systems and policies to ensure a safe, humane and sensitive health system during infectious outbreaks.

Hospitals Under Stress

Another woman's story illustrates the tension among hospital staff during SARS and how it reduced quality of care for patients who did not contract SARS. Her story is another example of the tremendous stress under which hospital staff, from doctors and nurses to cleaners and security staff, had to labour.

She told of how her father was in a Toronto-area hospital for hernia surgery in May 2003. The man was 85 years old and did not do well after the surgery, and his stay was extended. At first the family was allowed to visit frequently, then two SARS patients were brought to the hospital and visits were limited to one person at a time for five minutes:

> This [admission of SARS patients] seemed to put the fear of death into the staff. Nurses didn't want to discuss the fact that two SARS patients were in their unit.

The father died in that hospital during the second week of June. Visiting was restricted when he died. His son and a granddaughter who had travelled from overseas were not allowed in to see him before he passed away. The daughter said:

> For the last 17 days of Dad's life he never felt human contact. For a man who always reached for someone's hand to hold, whether it was his daughter's or one of his 10 grandchildren, all he got was a latex glove. The grandchildren are left with this awful image of not being allowed to be with their precious grandfather for the last week of his life.

The coroner's office ordered an autopsy. The daughter told the Commission that five months after the autopsy they still did not have the results, although they had been told he did not die of SARS:

> We still don't have closure. A lifetime of love and caring that ended with neglect and loneliness.

Quarantine: Confusion, Controversy and Hardships

There had been no widespread use of quarantine in Ontario for 50 years, so it is not surprising that quarantine during SARS caused confusion, controversy and stress. By one official estimate, 15,000 to 20,000 Ontarians entered quarantine during the outbreak.[823] But there is some confusion about how many people were under home quarantine, how many under work quarantine, how many were actually contacted by public health and how many quarantined themselves voluntarily without ever speaking to public health authorities.

It is likely that somewhere around 30,000 people observed quarantine during the outbreak in Ontario. Virtually all of those entered quarantine voluntarily. Sixty-five persons were issued Section 22 orders during SARS; one was served with a Section 35 order, and the latter was a matter of some controversy. Section 22 of Ontario's *Health Protection and Promotion Act* allows a medical officer of health to require a person to take (or refrain from taking) any action specified in the order regarding a communicable disease. Action under the order can include directing a person to remain at home while a danger to others. Section 35, used for people who refuse to comply, allows the Ontario Court of Justice to issue an order directing compliance, and may also require police to help to enforce it by taking the person into custody and admitting the person involuntarily to hospital.

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[823] SARS Commission Public Hearings, September 29, 2003.

The glaring inadequacy of Ontario's antiquated *Health Protection and Promotion Act* is described in the Commission's Second Interim Report.[824]

The term "quarantine" is often misconstrued, and sometimes confused with isolation. Both are defences during infectious disease outbreaks. Public health officials must have the power to isolate those who are infected, and to quarantine those who might have been exposed to infection and might be infectious to others. The U.S. Centers for Disease Control and Prevention defines both:

> Isolation refers to the separation of persons who have a specific infectious illness from those who are healthy and the restriction of their movement to stop the spread of that illness. Isolation allows for the focused delivery of specialized health care to people who are ill, and it protects healthy people from getting sick. People in isolation may be cared for in their homes, in hospitals, or in designated healthcare facilities.
>
> Quarantine refers to the separation and restriction of movement of persons who, while not yet ill, have been exposed to an infectious agent and therefore may become infectious. Quarantine of exposed persons is a public health strategy, like isolation, that is intended to stop the spread of infectious disease.[825]

Ontario was not the only jurisdiction to use quarantine during the 2003 outbreak period. China, Taiwan, Singapore and Hong Kong were the main areas of Asia affected by SARS and they also responded with quarantine. However, the approaches to quarantine in Asia and Ontario were quite different. Some Asian jurisdictions set up police checkpoints, cordoned off entire villages, and even threatened to execute anyone who broke quarantine.[826] In Ontario, public authorities used voluntary quarantine and in some cases provided food and supplies needed during isolation.

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[824] For more analysis of the legislation and the problems that arose during SARS, see the SARS Commission, second interim report.

[825] CDC *Isolation and Quarantine (SARS)*, www.cdc.gov/ncidod/sars/isolationquarantine.htm.

[826] Article by Brian Friel, National Journal Group Inc, October 21, 2005.

Ontario's quarantine involved staying at home for 10 days, after which the risk of having been infected was considered over. Quarantined individuals slept separately from other people in the home, wore masks when near others and were not to share personal items.

Toronto used work quarantine for health workers exposed to SARS but who remained healthy. These health workers continued at their jobs but stayed in home quarantine after working hours. They were expected to travel to work in isolation (i.e., not using public transit) and were asked to closely monitor themselves for signs and symptoms of SARS, including twice daily temperature checks. The idea of work quarantine was to ensure that there were enough health care workers available. If every health worker exposed to SARS had to remain in home quarantine, there would have been a tremendous, and perhaps impossible, strain on health facilities because of worker shortages.

Quarantine was discussed in the Commission's interim reports. The purpose of raising it here is to illustrate how quarantine disrupted the working and home lives of thousands of Ontarians who suffered considerable emotional and psychological strain because of SARS.

Public hearings and private interviews produced many individual stories of the hardships and stress caused by quarantine. People told the Commission of the stress of being isolated from family and friends, plus the anxiety they developed from fear that they might have SARS and pass it on to their children or other family members.

The Ontario Nurses' Association presented this collage of quotations from nurses who were quarantined because of possible contact with SARS at work:

> Quarantine was very difficult. Not being near my family, not being able to touch them.
>
> I was sleepless, stressed, feeling despair every time I went to work. I felt depressed, angry at how it was mishandled, especially isolated, suffered from insomnia and had a tremendous fear of bringing a deadly disease home to my children. The babysitter refused to babysit my child. Friends, family and parents of my child's classmates did not want their kids to play or contact my family.

> I had several vivid nightmares during outbreaks that my children were ill with SARS. One night I woke and ran to the bed of my youngest who was clutching her forehead, convinced she was burning with a high fever. My youngest child was teased and isolated by her peers because her mother was a nurse at a SARS hospital.
>
> My husband and children moved out for 12 days. Grandparents changed schedules to care for the children. There was stigma from friends outside of work. I suffered nightmares.
>
> I was very much isolated from loved ones. My family thought I was going to die.
>
> Just last week a number of ONA members who developed SARS after caring for SARS patients told me they continue to suffer severe emotional and physical repercussions of a disease that we still don't know that much about.[827]

Roughly 7,000 persons were sent into home or work quarantine because they had a connection to North York General Hospital, the epicentre of the SARS II outbreak. Some 4,000 were hospital staff. Bonnie Adamson, president and CEO of the hospital, told the public hearings of the tremendous hardships caused by quarantine:

> For many of them the situation made them feel like pariahs in their own community. We heard reports of neighbours crossing the street to avoid houses where our staff lived and even an eviction notice to one of our staff members by nervous roommates … Many were unable to attend important family milestones: weddings, graduations and even the funeral of parents, and these are events that could never, ever come back.[828]

Many of the stories of hardships during quarantine are anecdotal. However, hard evidence of the effects is found in a study by researchers in Toronto and New York. It found that of 129 quarantined persons studied, 28.9 per cent showed symptoms of post-traumatic stress disorder (PTSD). Symptoms of depression were observed in 31.2 per cent:[829]

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[827] SARS Commission Public Hearings, September 29, 2003.

[828] SARS Commission Public Hearings, September 30, 2003.

> All respondents described a sense of isolation. The mandated lack of social and, especially, the lack of any physical contact with family members were identified as particularly difficult. Confinement within the home or between work and home, not being able to see friends, not being able to shop for basic necessities of everyday life, and not being able to purchase thermometers and prescribed medications enhanced their feeling of distance from the outside world. Infection control measures imposed not only the physical discomfort of having to wear a mask but also significantly contributed to the sense of isolation.

This study said that just making temperature checks caused anxiety in some people. It quoted two people as illustrations:

> Taking temperatures was mentally difficult, said one.

Said another:

> Taking my temperature made my heart feel like it was going to pound out of my chest each time.

Following quarantine, 51 per cent of respondents had experiences that made them feel that people were reacting differently to them: avoiding them, 29 per cent; not calling them, 8 per cent; not inviting them to events, 8 per cent; and not inviting their families to events, 8 per cent.[830]

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[829] Laura Hawryluk et al., "SARS Control and Psychological Effects of Quarantine", *Emerging Infectious Diseases*, Vol. 10, No. 7, July 2004 (Hawryluk et al., "SARS Control and Psychological Effects of Quarantine")

[830] Hawryluk et al, "SARS Control and Psychological Effects of Quarantine".

Individual Stories

One of the most serious effects of quarantine was that it kept people apart when they needed to be near family and friends. In so many cases, a family member was ill, or dying of SARS, and those close to him or her were unable to provide normal care and comfort to the patient or each other.

Said one man who lost both parents to SARS:

> Nobody could see each other. Finally I was able to get permission to go visit Mom because she was dying but I couldn't go next door to visit my sister or two doors down to visit the girls [his nieces].

When a death did occur, some people were not able to pay their last respects or attend funeral services because they were under quarantine. More is said about this under the section on funerals.

Quarantine affected many people who had no risk of exposure to SARS until they had to visit a medical facility for treatment of an existing condition, or for examination and tests. A kidney dialysis patient told of how he had to take treatment three times a week at a hospital. He complained about confusion over SARS quarantine. After one treatment, public health authorities called him and said he must be in quarantine, which included wearing a mask at home and not sleeping with his wife. Other dialysis patients told him they were not quarantined. However, every time he went for dialysis he was placed under a new ten-day quarantine. He complained to public health that he could be in quarantine for the rest of his life and maintained that only people sick with SARS should have been quarantined.

Shunning of people possibly exposed to SARS in some cases continued after a person ended the quarantine period and was symptom free. One woman told of how her adult son gave up a business connection, partly because the people with whom he worked found out he had been in quarantine:

> … when this happened [quarantine] he had to stay home and he chose not to tell the other people in the office why he was home because people were very skeptical about being around people and whatever. When his time was finished with the isolation [quarantine] he did tell them why he had been off and things didn't go very well. They almost threw him out and said how could you do that when there was other people at risk who

> had families that he worked with and it just got worse and worse … I'm not saying that this was a whole result of this but this was kind of the icing on the cake … they were very irate.

One woman whose family suffered three SARS deaths told of the effects on her children. Their father was in hospital desperately ill with SARS and they were quarantined at home:

> My daughter missed her play, the school play that they've been working on all year, and I couldn't get the school to put it off for a week. She missed it. My kids were just so isolated and the school wasn't doing anything, and they were sending homework home. That's what they were doing, they were sending homework and leaving it on the porch.

To help ease the strain and break the boredom, the mother called friends and asked them to bring children over to hold signs, sing and perform skits while the quarantined kids watched from inside:

> And they did and it made such a difference. I was so angry that my children's mental health was left to me. Like, where are all, where's public health, where are the schools, where's the school boards, you've got mental health issues going on here in quarantined homes, and nothing, nothing in the system.

The problems did not end when quarantine did. A daughter was not allowed to return to her high school after quarantine. She missed her Grade 11 final exams and was penalized 30 per cent of her marks for not being able to take the exams. Her mother said:

> That's what my daughter's dealing with now. So, in Grade 12, she has to maintain an average over and above, aside from the fact that they didn't make up the materials she missed, they kept her out of school for a fair bit of that last term.
>
> The schools didn't know how to respond or react, they had parents panicking … The absurdity became that my kids, although not in quarantine, weren't in school, they were at the mall, because they weren't quarantined anymore …

Another woman had to get public health to help her fight a principal who banned her daughter from school. No one in the family was ill or quarantined but the principal had heard that the woman's mother worked at an infected hospital. She said:

> I knew the principal quite well at the school and he tried to ban my child going to school and then again I had to phone public health and she … phoned over to the school and also faxed a letter to him that he could not do that.

Some schools were closed and students and staff ordered into home quarantine when officials feared students had been exposed to SARS. Quarantine affected 1,700 students at one school in the Greater Toronto Area.

One student told the media he was upset because he missed his girlfriend's prom night because he was in quarantine:

> It's so hard for me right now, because I'm 19 years old, and whenever I'm not in school, I'm out. So for me to be stuck in my house is the hardest thing.

Mixed in with all the stories of hardships caused by quarantine were some stories of human kindness. Like the friends who gathered outside the home of the quarantined kids to perform skits, and the people who assembled outside a hospital to cheer on the work-quarantined staff.

Toronto Emergency Medical Services told this story to the public hearings:

> We got a phone call from someone who said "my nine-year-old son's birthday is Friday. My whole family is in quarantine. Can someone please go buy a birthday present for my son?" And we took care of that …[831]

This last story is so typical of those health workers who went the extra mile to help the sick. The story of SARS quarantine, with all its problems, is the story of magnificent work by health workers and magnificent voluntary support from the public. As noted in the Commission's interim reports, systems are required to support and encourage this magnificent cooperation by health workers and the public.

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[831] SARS Commission Public Hearings, September 29, 2003.

No Chance to Provide Support

One woman told of the difficulties of not being with her companion when he went for cancer treatments. On April 8, 2003, she took him to a cancer clinic. She was not allowed to enter the hospital and sat between the double doors at the entrance while he sat in the waiting room for three hours. Another time he had a doctor's appointment at and the results were expected to be grim, but she was not allowed in to give him support. In May he was very sick and she took him to hospital, where she was told she would have to wait in the car. She went home and eight hours later the hospital called and told her to come and pick up her companion. The man succumbed to his cancer not long after.

Critical Treatment Delays

One doctor told the Commission of a study her hospital did of cancer patients requiring treatment during SARS. The study showed that when SARS screening measures were first introduced, there was confusion because "we didn't know what we were doing":

> We were dealing with sobbing patients, husbands threatening to bomb us because we wouldn't allow them in with their wives [newly diagnosed with cancer].

The doctor said directives relating to SARS were so frequent that information didn't get passed along in a timely fashion to staff and patients. One man was told he could bring his wife when he came for his treatment. When they got there she was turned away and had to wait in the car. Another man diagnosed with cancer was scheduled for treatment as SARS began. The treatment was delayed three months and of course he was distressed because the delay could give the cancer more time to spread.

SARS made hospital visits especially difficult for new patients. They were already traumatized by recent cancer diagnosis and were confused and even frightened by hospital systems and routine.

Said one patient:

> For me my experience is so scary because the first day you come to hospital you know the diagnosis was cancer and there was no visitor with me.

> That is something missing, the support. When I step into the hospital and I just get crying.

Said another whose husband had a brain tumour:

> There is no reason a spouse can't be with them. He was unable to go anywhere without me. I could not leave him at all so why can't I come? There's no difference in SARS exposure information for either of us.

Her point is understandable considering that some brain injury patients are unable to record properly what doctors are telling them. Some are unable to take notes, like many patients do. Even patients without any brain impairment have difficulty absorbing and accurately recording what health care professionals tell them about diagnosis and treatment.

What is required is a system that plans ahead to minimize as much as possible the collateral impact of infectious outbreaks on necessary medical treatments.

Common Threads

A common thread in all these stories is the lack of someone to turn to for appeal. Most of these hidden victims could have found comfort in being able to approach one person at a hospital or other care facility who could have provided facts and explanations, and even overturned any access decisions that might have been made in the heat of battle. SARS was confusing and health workers under extreme stress made judgment calls that they thought best. In the absence of preparedness and consistent policies, they were often forced to make it up as they went along. For the hidden victims there was no one to turn to for explanation or discussion of those judgment calls. No person should have had to turn to the daily newspaper to gain access to a dying relative, as did the woman in the first story related above.

These stories also show what was seen in other aspects of the SARS outbreak: not being prepared. The health system needed simple policies and practices to meet the needs of not only victims, but family and friends and other innocent bystanders. Bad things always happen in times of crisis. That is part of life. However, policies thought out in advance, strengthened through staff training and applied consistently, would have prevented at least some of the grief suffered by these hidden victims.

Impact on the Chinese and Southeast Asian Communities

No ethnic group was more affected by the SARS outbreak than Toronto's 400,000-strong Canadian Chinese and Southeast Asian community. It was widely reported that the outbreak originated in Asia. The stigma was immediate, especially in those parts of the Greater Toronto Area where Chinese and other Asian restaurants and businesses are concentrated.

Citizens and tourists avoided people of Chinese background for fear that they carried the new disease. They avoided them on the streets, at work and at their places of business. Normally jammed with customers, these areas were deserted. Not only did tourists and restaurant customers stay away, but the Chinese Canadian residents stayed home as well.

The Chinese-Canadian National Council (CCNC) estimated the loss of income to businesses in the "Chinatown" areas at 40 per cent to 80 per cent, depending on the type and location of the business. The loss was substantially worse than that suffered generally by businesses across Toronto.

Politicians and public officials took notice of Chinatown's plight. Prime Minister Jean Chrétien and Ontario's Lieutenant Governor James K. Bartleman made photo-op dining visits to Chinese restaurants. Some Chinese Canadians said these gestures did not make a big difference, but others applauded the intervention.

The impact of SARS on individual Chinese and Southeast Asians Canadians went beyond business loss. Many service workers, including live-in caregivers and restaurant waiters, lost their jobs.

Members of the Chinese and Southeast Asian communities felt they were stigmatized unfairly, and werewrongly blamed for the emergence of SARS. They felt racism was at play. The Chinese-Canadian National Council's report blames the media, which always raises the spectre of the "shoot the messenger" exercise. But the problem was widely recognized and as noted earlier, public health stressed to the public that it was not easy to contract SARS and that race had nothing to do with getting it.[832]

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[832] SARS news conference, April 5, 2003.

Chinese Canadians noted that people moved away from them on subway trains and their children were sometimes shunned at school.

Hospitality workers felt the effects most directly. When customers avoided Chinese restaurants, waiters were sent home. Live-in caregivers caring for children and the elderly were especially vulnerable. About 70 to 80 per cent of them come from the Philippines under a government program. SARS had a great impact on their lives since, unlike health professionals, they have few guaranteed rights and little job protection.

Coco Diaz of Intercede, an organization for the live-ins, told the CCNC researchers:

> There were many cases of unfair termination of employment during SARS. They were dismissed as if they were already carriers of the disease. Employers were most concerned with the elderly or children in the family and yet showed little concern for their employees.

She told of a live-in who contracted SARS by taking the elderly person in her care to the hospital. The live-in spent three months in a coma and had to undergo many months of rehabilitation.

Ms. Diaz reported that unfair dismissals intensified in April 2003 when the media reported the links of several new SARS cases to members of a Filipino Catholic group:

> Immediately, some employers started to think that just because the workers are Filipino, then no, they cannot come and work.

Some who employed live-ins worried that their employees would get exposed to SARS during their days off and bring it back to the household. In some cases, live-in employees were quarantined for 10 days after returning from their days off, then were dismissed anyway when the quarantine ended.

To a live-in caregiver, the loss of a job also means the loss of a home, since they usually live with their employers. To lose a job is to jeopardize immigration status.

The Metro Toronto Chinese and Southeast Asian Legal Clinic told the Commission's public hearings that, ironically, Chinese and Filipino Canadians were the ones who fought on the front line as nurses, doctors, and other health care workers. Nursing is one of the few professions where Asians, particularly people of Chinese and Filipino descent, are well represented, the clinic said:

> So while Asian Canadians on the street were being targeted, Asian Canadian health care workers were risking their lives for the people who were inflicted, inflicted with the disease. It is not a coincidence that the two nurses and the doctor who died from SARS, were persons of either Chinese or Filipino descent.[833]

The clinic noted that anti-Chinese sentiment has always been present in Canada, notably when Chinese labourers were brought to Canada to build the early railways. When the SARS outbreak occurred and was reported to have originated from Asia, racism based on fear of Chinese carrying the disease emerged again:

> Images of Chinese Canadians wearing masks began to appear in mainstream media reports and this new fear the Chinese Canadian Community, while never spoken was certainly felt by members of the Canadian public … It was also around that time that our clinic began to receive calls from individuals who became the casualty of SARS, although not in the medical sense.

While some workers lost their jobs in restaurants and other workplaces from the economic impact of SARS, others reported discrimination based on the idea that SARS was a Chinese or Asian illness:

> We received a number of complaints from tenants who got kicked out by their landlord because they were Chinese. Some of them were new immigrants or recent immigrants from China but one of these tenants who called us was, in fact, a Canadian-born Chinese who had never set foot in China or in Hong Kong and who actually lived in Guelph outside of the epidemic centre of SARS. She was told by her landlord to move out ...

The clinic also heard from many workers of Chinese descent who were terminated or told to say home because of perceived fear from their non-Chinese colleagues:

> There was a nursing home which served primarily Chinese Canadian seniors where some nurses refused to work because of a totally unfounded rumour that the nursing home residents had contacted SARS.

Hundreds of workers were left out in the cold. Especially hard hit were "undocumented workers," workers in Canada illegally.

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[833] SARS Commission Public Hearings, November 18, 2003.

While they were out of a job, they had no access to unemployment insurance or other governmental benefits. They also could not or would not complain to the authority when their rights were being violated.

The clinic filed a formal complaint against the Immigration and Refugee Board, where staff started wearing masks at hearings for Chinese or other Asian claimants. These claimants had been in Canada for at least a year, since that is how long it takes for a claim to heard, and were not recent arrivals. The practice was dropped after the protest.

Such experiences left many Chinese and Southeast Asians stigmatized and humiliated. This simply should not happen. Communication and education are the keys to avoiding such stigmatization. Intelligent people who have been communicated the real facts know better than to participate in such shameful shunning. Time and again the Commission has seen that preparation in communicating clearly and effectively could have avoided many of the problems that arose during SARS.[834]

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[834] SARS Commission Public Hearings, November 18, 2003.

Funerals and the Suffering of the Families

The case histories of families who lost members to SARS are horror stories. Losing someone is bad enough, but with SARS there was fear of contagion throughout the entire family. There was the shocking reality of loss and the prospect of more losses. The bereaved were faced with trying to make funeral arrangements while they worried how deeply the virus had penetrated their family. Who would come down with the illness next?

Here is the recollection of one person who buried a family member who died of SARS:

> They opened the casket just for the immediate family. We had to wear masks and gloves. Nobody came to the funeral home or the funeral; a lot of people were scared.

Another story illustrates the extreme ugliness of the SARS outbreak.

A man in his 70s experienced heart irregularities in early March and went to hospital. It was his wife's birthday. He was released the next day and when he got home he began having flu-like symptoms. He became sicker and his family doctor diagnosed double pneumonia. Eight days after first being released from hospital he was returned by ambulance.

While he was in hospital on a respirator, his wife was not feeling well. She was taken to the emergency department but nothing serious was diagnosed. The man died two weeks after his first visit to the hospital. The day after his death, the widow was admitted to hospital. Soon after, a daughter was admitted with flu-like symptoms. The family originally had been told the father had atypical pneumonia, some type of mysterious illness. The son told the Commission:

> For the first two weeks we weren't allowed to see my mother … The hospitals were all closed down.

> Everybody was in quarantine. I had my sister's youngest, she's 14 years old, and was staying alone in my parents' house because her mom was in the hospital.

The family learned their father died of SARS when they went to the funeral home to make arrangements. While they were discussing the arrangements at the funeral home, Toronto Public Health called. After the call, the funeral director gave the family the news that SARS had killed their father. Toronto Public Health also had advised the funeral home personnel that the family should leave the building and enter into quarantine.

The funeral home held the body for 48 hours, then took the body to the cemetery for a graveside service. Public Health had told the family there could be no public funeral service. Only a half a dozen people attended the burial of a man who had hundreds of friends. More than 500 people attended a memorial service a couple of months later.

Various family members who either had the virus or were thought to have it recovered, except for the mother. She died three weeks after the father. She also had a graveside funeral, which meant bypassing many of her Jewish faith rituals, including sitting shiva and tahara, traditional washing of the body. The bodies of both the father and the mother were left sealed in plastic bags in their coffins. The son said:

> … it was a real horror story. One of our Jewish rituals is sitting shiva, which is like a mourning period. We weren't able to do that for my dad. We barely had enough pallbearers at the funeral to bury him. We had to drive ourselves to the cemetery.

The son also recalled the desperation of trying to find out what was happening to his family:

> My two nieces, this was my older sister who was in hospital with SARS, her two older daughters were taken to [the hospital] and when they took them in there it was almost impossible for me to keep track of what was going on. I've lost both my parents and you've got my sisters and my nieces here … I need to know what's going on …

Another nightmare involved a widow whose husband was shipped out for autopsy and cremation without her involvement. She had visited him in hospital one night but then she had to go into quarantine for 10 days. When she finished quarantine the hospital was closed to visitors. Her husband died and was cremated without her knowledge, and she never got to say goodbye.

Importance of Funerals

The end of a life, although shocking, also is the start of a grieving and healing process in which the living begin to accept their loss and the need to carry on. With SARS, however, this process was often short-circuited, and in some cases completely blocked. Relatives and friends were denied normal bereavement and spiritual comfort because of fears about the spread of the disease. Some of these fears were based on misinformation or simple lack of information because our public health systems were overwhelmed. They had no prepared plan to deal with funerals and burials, and were unable to respond quickly and decisively.

Funeral homes, where comfort and healing is supposed to begin, found themselves disconnected from the public health and health care systems. More will be said later about the organization of the funeral industry and its role in public emergencies. The industry struggled with the effects of quarantines, contradictory information from government and the additional anguish of families unable to achieve proper closure. Quarantined families found it difficult to make funeral arrangements from home. Funerals were delayed, sometimes cancelled, and burials were conducted without mourners.

As one senior public health official told the Commission:

> There were so many tragedies in this outbreak.

One heartbreaking image from the SARS outbreak was a burial scene in which a lone limousine delivered a victim's coffin to an open grave attended by two cemetery workers in "space suits," the term a funeral director used for the protective gear worn by the grave handlers. Another is the scene of family members standing afar in another section of the cemetery as a coffin is lowered into its grave. One cemetery manager told a funeral director the family would not be permitted to attend the burial because they had had contact with the deceased during his illness, but the director ignored this.

Throughout history, pandemics and epidemics have set up conflicts between dealing with the dead and protecting the living from the spread of disease. The need to restrict public gatherings often clashes with the human desire to pay final respects to the dead. In the 1664–1665 Great Plague of London, city officials tried to stop public funerals, but people refused to obey and flocked to graveside services by the dozens.

Widespread deadly outbreaks also strain society's services for handling the dead. During the Spanish flu pandemic of 1918, which killed 50,000 Canadians, one Toronto undertaker reported stacking 23 bodies in his garage because there was no room inside the funeral home and help was difficult to get because of fear of the disease.[835]

In a health emergency such as SARS, funeral rites obviously must carry lower priority than the need to contain the virulent public health threat. However, there is evidence that more planning and much better communication could ensure that fighting a pandemic and burying the dead with dignity can be carried out without one seriously compromising the other. Fixing some underlying problems of where the funeral industry fits in the health care and public health systems and how it is regulated also would help funeral directors better carry out their important role. More will be said about that later.

SARS deaths confirmed the importance of the funeral process in our society. A death brings out high emotions. The rituals and ceremonies of funerals help people support each other and try to deal with those emotions. Visitations and body viewing bring reality and some comfort to mourners.[836]

The Ontario Funeral Service Association reinforced for the Commission this view of the importance of funerals and, for those who choose it, the viewing of the body:

> It has been proven time and time again by psychologists and grief counsellors that having an opportunity to see the deceased is a big part of the grieving process. The embalming and the visiting play such a huge part in the process though it might be a small issue. In the SARS situation many

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[835] "More Deadly Than War Itself", *Legion Magazine*, January/February 2001.

[836] The powerful need for a funeral process is dramatically illustrated by a bizarre Ontario historical event, the death of landscape painter Tom Thomson. Thomson drowned mysteriously in Algonquin Park in 1917. His body was found after nine days in the water and because it was decomposing, his friends buried him immediately. When the Thomson family in Owen Sound was informed, they ordered the body exhumed and shipped home for another funeral and burial. This caused much controversy and added to the mystery surrounding the death. However, the fact was that the Thomson family felt it could not accept the death and grieve properly without witnessing a funeral and burial themselves.

> families were not allowed in the hospital. The concept of seeing the body for many people shows them that the person is dead.

In SARS some victims entered hospital and were never seen again. Religious rites were bypassed in some cases. Those left behind had no opportunity to confront the reality of death and to honour the life of the deceased. Last wishes could not be fulfilled. The relative of one victim said:

> I am very upset over the way the burials were handled … they seemed to have made it so hard for us to pay our respects.

Said the widow whose husband's SARS-infected body was shipped out for autopsy then cremated without her knowing it:

> I went through Hell. If they told me the truth and said he had to be cremated because of the sickness I would say okay, but they never asked me … they never told me. Nobody asked me nothing.

Body Transfers

Complications for burying those who died of SARS began with transfers, the process of picking up a body at hospital, taking it to another hospital for autopsy and eventually on to a funeral home. Funeral home staff encountered significant challenges in trying to complete transfers, mainly because hospitals had no standard procedures for removing the bodies of SARS victims Rules and practices for body transfers during SARS varied from hospital to hospital.

Uncertainties created by lack of preparedness and misinformation, or lack of information, appeared to cause much of the confusion over body transfers. Early on it was not known how SARS was spread or even how long the virus might live after death. Some hospitals therefore became cautious of funeral home transfer people arriving for normal body pickups but who might have picked up SARS bodies from other hospitals.

The uncertainties about whether SARS might be spread by funeral home workers led hospitals to institute some procedures for body pickups, including donning of protective gear. However, because there was no overall prepared plan supported by policies, protocols and memoranda of agreement, the policies and practices varied from hospital to hospital. There was no consistency, and this made work difficult for the funeral industry.

These inconsistencies included the following:

- Some hospitals screened funeral workers at the front doors before allowing them in. At least one hospital required them to go to the emergency department for screening. However, others refused them entry, and hospital staff delivered paperwork and in some cases bodies for transfer to funeral home staff waiting outside.

- Some hospitals questioned funeral home employees about what other hospitals they had visited. If they had done SARS pickups at other hospitals, they were turned away.

- One hospital required funeral workers to wear protective gear when entering offices where body transfer documentation was to be picked up. For others, screening was enough. For still others, staff delivered paperwork to funeral home workers waiting outside.

- Funeral home workers found procedures used at a hospital on earlier pickups suddenly changed. Procedures for entering the hospital one week were different another week.

- Practices varied, even inside the same hospital. For instance, one funeral worker noted that medical staff wore protective gear but security staff didn't.

- When SARS appeared to be waning, one funeral operation continued to dress its workers in protective gear as a precaution. At least one hospital asked them to remove it.

- Post-SARS, some hospitals still required funeral home personnel to wear masks, while many did not.

One funeral home executive told the Commission:

> They were tripping over themselves … Hospitals started to say that if our personnel were in a SARS hospital to pick up a body then they wouldn't be allowed in other hospitals to pick up bodies.

> It took a bit of time but they realized that we would run out of players to come to the hospitals.

In one case a hospital refused a funeral home employee access to pick up a body because the media had reported that someone in contact with SARS had attended a visitation at the funeral home.

Before SARS, the typical pickup procedure involved funeral home staff arriving at the hospital, presenting a permission slip, completing paperwork, obtaining the death certificate and meeting security to collect the body. When SARS arrived, procedures became confused because there were no effective planning or preparation, no standard systems, and no universal precautions for picking up a SARS body. As already mentioned, procedures varied from hospital to hospital and sometimes changed, leaving funeral home workers confused about exactly what they should do. Most hospitals required funeral staff to wear protective gear such as masks, gloves and coats. In one case, paperwork exchanges were done in a tent outside the hospital.

One funeral support service involved in body transfers told the Commission:

> The rules changed at nearly every hospital, they were never the same and just when you thought you had the routine down, they changed the rules… . Different hospitals did different things.

Lack of communication helped to create confusing situations. For instance, workers from a funeral home transferred two bodies from one hospital in one day. The next day they heard through the media that the hospital had been closed because of SARS and anyone who had attended the hospital must go into quarantine. The funeral home operators decided to cancel the funerals and to store the bodies until after the quarantine period. They were upset that they had not been told of the closure and quarantine by the hospital or by anyone in authority.

The Toronto and District Funeral Directors Inc., an association of 60 Toronto-area funeral homes, advised its members in a faxed memo that:

> Funeral homes will be made aware of SARS deaths from the Medical Officer of Health, prior to family contact.

Although every effort was made to make this happen, some cases inevitably fell through the fingers of a system that was unprepared and overwhelmed.

Embalming

Once a SARS body was at the funeral home there were other complications. Embalming, because it involved handling SARS-infected fluids, presented possible risks of spreading the disease. Also, the bodies of people suspected of dying of SARS likely would be partially autopsied. The dangers of working with SARS-infected bodies were confirmed later by a study of SARS autopsies that showed the coronavirus continued to live in the dead. Autopsies of 19 patients who succumbed to SARS in Toronto showed the virus was present in the lungs of all of them.[837] It also was found in high percentages of bowel tissues examined.

Opening the body created exposure to airborne pathogens and required what the medical community calls taking universal precautions. In general terms, universal precautions involves using protective gear, including gowns, masks, gloves and shoe covers, to shield workers against spraying blood and gases during embalming. Surgical-type masks normally used by funeral homes were replaced by N95 respirators during the SARS outbreak. However, the Commission's investigations found only one funeral home that actually fit tested the N95 respirator before use.

Advice from public health on embalming was not always clear. One funeral director spoke with a local coroner's office, which advised him that it was okay to embalm as long as universal precautions were used. A letter from Toronto Public Health advised that embalming should be done using full respiratory precautions, including gloves, gowns, masks and goggles. However, the letter added:

> Although we have no evidence of risk to staff who are using these precautions, it may be prudent to avoid embalming the body if possible.[838]

Some people in the funeral industry found this advice too vague to be helpful. They thought there should be specifics, especially considering that some other countries prohibited the embalming of SARS victims.

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[837] Mazzulli T, Farcas GA, Poutanen SM, Willey BM, Low DE, Butany J, et al. Severe acute respiratory syndrome–associated coronavirus in lung tissue. *Emerg Infect Dis* [serial online], January 2004.

[838] April 2, 2003 letter to Toronto and Area Funeral Directors Inc.

Screening Measures

The risks for funeral home operators and staff did not come only from handling bodies. There also were the risks of contracting the disease from family and friends who had contact with the victim while alive. This latter risk also applied to funeral home visitors.

In one highly publicized case, a doctor who had been working with SARS patients showed up at a funeral home for a visitation and later for the actual funeral. After the funeral he felt unwell, found he had an elevated temperature and admitted himself to hospital, where he was isolated. Controversy erupted when the acting York Region Medical Officer of Health denounced the doctor in scathing terms for attending the funeral despite the doctor's evidence that he was not symptomatic until after the funeral. That controversy is addressed earlier in this report, but the upshot was that 150 people who might have had contact with the doctor were quarantined.

This kind of incident led to funeral screening measures. These measures included questions about possible contact with SARS, posting notices and establishing hand-washing stations. But screening of any sort is never completely effective. The experience of one funeral home illustrates this. One family went to a funeral home and passed the SARS screening tests. A visitation was held in the evening. The next day the family called the funeral home and said they had learned from public health that their relative had died of SARS and that the family was possibly exposed along with anyone at the visitation.

The home had to provide a list of names of everyone who attended the visitation so they could be quarantined. Four funeral home staff were quarantined.

As recounted earlier, one family learned of their father's death from SARS while at the funeral home making arrangements for his service, when public health called and told the operators to get the family out of the building because he had died of SARS:

> We were making the arrangements for them and the phone rang. It was the Board of Health. They were saying that it was SARS and to get the family out of the building. They said that the family should be in quarantine and not together.

However, the Coroner's Office understood it was not a SARS death. It took two to three hours to confirm that the death was indeed from SARS. The managing director of the home told of the chaos resulting from the situation:

> We had conflicting information from public health and the coroner. There were so many phone calls that day. It was the day from Hell.

Three staff had to be quarantined, leaving only two funeral directors to handle the business.

In some cases when funeral directors and families met to make arrangements, everyone wore gloves and masks. In others, arrangements were made over the telephone. In still others, there were no usual arrangements, as bodies were taken directly to a crematorium or cemetery for burial.

Quarantines

Quarantines disrupted funeral home operations significantly. Staff quarantines required split shifting to prevent overlapping staff from infecting each other, borrowing staff from affiliated homes and in at least one case shutting down operations for a short period.

The same rules did not appear to apply to everyone. The funeral home that made the two normal pickups from a hospital then learned that the hospital was shut down cancelled the two funerals, which did not sit well with one of the families. A competing funeral home was in a similar situation but did not follow quarantine and went ahead with funerals. The family wanted to know why the rules were not applied uniformly.

Other awkward situations were created when funeral homes had to explain surcharges for infectious disease body handling. One family complained to the Board of Funeral Services about extra charges, but the Board held that the charges were proper. Handling the bodies of those who have died of an infectious disease does involve additional costs. Funeral employees must have personal protective equipment (PPE), more time must be spent disinfecting, and bodies sometimes need to be put in special bags. There also is the extra expense of staff time lost to quarantine and the costs for screening measures.

Funeral homes received no government compensation or relief for SARS expenses but the health care industry did. One operator said that quarantine of staff had cost $14,000.

Funeral directors had the choice of passing on these costs to customers or absorbing them. One funeral director said he made a deliberate decision not to absorb surcharges to demonstrate that special precautions were being taken. This he hoped would boost public confidence that his operation was doing what it could to prevent any spread of SARS. However, passing along costs risked creating an image of funeral operations profiting from disaster.

Public confidence certainly was an issue, as evidenced by the experience of a funeral home caught in the media spotlight early in the SARS outbreak. Some funeral home staff and people who attended a visitation were quarantined and the case was much reported by the media. A manager at the funeral home told of how the media exposure affected business:

> Everyone knows the quarantine period was 10 days. So Canada Post informed us they would not deliver mail for two weeks. Our suppliers were concerned whether or not they should be sending their delivery people out. That's the reaction that we got.

The 2003 SARS outbreak was the first time Ontario had used quarantine in 50 years.[839] A post-SARS study concluded that quarantine can cause considerable psychological distress and depression and that support should be available for persons at risk for adverse psychological and social consequences of quarantine.[840]

Said one man whose family was quarantined after attending the funeral home without knowing his father had died of SARS:

> Then the whole thing … dealing with the whole fear that everybody had. We had friends that treated us like we were lepers.

In the end, most funeral homes and their clients simply coped as best they could. They watched television news, surfed the Web and talked to coroners and anyone else who could provide information. Experience gained in handling AIDS deaths was helpful. One of their most important jobs was to maintain public confidence that funeral homes were safe when precautions were being properly followed. As with other parts of the SARS story, impressive individual efforts were what got them through problems that were systemic.

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[839] SARS Commission Public Hearings, September 30, 2003.

[840] Centers for Disease Control and Prevention, *Ahead of Print*, Vol. 10, No. 7, July 2000.

Associations

Funeral homes should be networked reasonably well through regulatory agencies and their own associations. All Ontario funeral establishments are regulated by the Board of Funeral Services, which is governed by the Ministry of Consumer and Business Services. There also are a variety of provincial and regional funeral associations that individual homes can choose to join. None of these connections, however, provided a lot of detailed and clear instructions for operating during the SARS outbreak.

The industry had mixed views on the effectiveness of the Board of Funeral Services (BFS) in its response to the crisis.

The Board of Funeral Services told the Commission that it first learned about SARS through the media. During March, April and May of 2003 it sent four communiqués to funeral establishments. Most of this information concerned universal precautions. The Board said it did not receive any communications from the provincial government, Toronto Public Health or any other health department.

Toronto Public Health provided some direction helpful to funeral establishments, but distributed it through Toronto and District Funeral Directors Inc. Membership in this association is voluntary and therefore only those who belong to the organization received the information.

Leadership seemed to be an issue throughout SARS, with more than one funeral home director saying that there was not enough leadership from the provincial government, public health or the funeral industry professional organizations.

The Funeral Issues

The SARS outbreak of 2003 killed 44 persons in Ontario. What if it had been a pandemic like the Spanish flu of 1918-19, which killed 20 to 50 million people worldwide, 50,000 in Canada? The 44 SARS fatalities produced enough disturbing stories about after-death care that one has to wonder about the extent of social disruption we would see with thousands of deaths.

Several critical after-death issues have been raised by the SARS experience. They are preparedness, leadership, communication and the role of the funeral industry in epidemics. By studying them, perhaps we can avoid some of the problems encountered in SARS and be better equipped to deal with the next serious public health threat.

As noted in the Commission's first interim report and other sections of this report, lack of preparedness seriously hampered the fight to contain SARS. Ontario was unprepared to deal with a major infectious outbreak. That failing spread beyond the primary health care system to become an issue in post-mortem arrangements. Better preparation would have helped the funeral industry to do its job without so much unnecessary distress to families who lost relatives to SARS. Better preparation could have helped to alleviate some of the hardship and additional grief suffered by the families and friends of the 44 killed by SARS.

When all is said and done, everyone got through the crisis. SARS was contained. Those who died of SARS were looked after. After-death precautions were taken to avoid spreading the virus. However, it wasn't easy and it wasn't pleasant and it was clearly more difficult than it should have been and produced unnecessary confusion and anguish. Some families will carry forever the scars of not having been able to arrange the proper final arrangements that their deceased relatives deserved.

Throughout its work the Commission heard complaints of lack of strong leadership in the SARS crisis.

One funeral director told the Commission:

> There seemed to be no leadership anywhere. The Province was quiet. The Minister was quiet. The Board [of Funeral Services] was quiet. Everybody was quiet. There just was no leadership.

Another funeral service person noted:

> There was very limited positive direction from health care. I had to go and seek it out. It was like pulling teeth.

One public health official cited the strong leadership of Bukas Loob Sa Diyos (BLD), the Roman Catholic charismatic group. Toronto Public Health quarantined 500 BLD members over the Easter weekend of 2003 because of SARS exposure.

Easter is their most important religious day and some might have been expected to break quarantine to attend services. However, Easter services were broadcast over cable TV, home delivery of Communion was arranged and one of their religious leaders told them it was their religious duty to stay at home.

Better communication and networking throughout the primary health care system and the funeral industry could have lessened the problems seen in SARS after-death care. The Commission heard story after story of communication failure and of lack of networking that could have made a difference.

A pre-planned response involving the funeral industry, the Ministry of Health, public health, the hospital community, Emergency Measures Ontario and the office of the Chief Coroner, supported by agreed policies, procedures, protocols, memoranda of understanding and tabletop drill exercises would go a long way to prevent the problems that arose during SARS.

One funeral director told of a public health hotline that funeral homes could call for information, but he said that often no one answered and if they did he had no confidence in the information provided:

> We had a hotline number to call if we had any concern with a deceased that we were supposed to pick up from the hospital to find out what the protocols were and what we were supposed to do. We were told that it was a 24-hour number but needless to say 90 per cent of the time no one answered.

Another noted that his operation had to turn to the World Health Organization website to get SARS information:

> I got most of my information from the WHO website. A lot of what I received we obtained ourselves and disseminated it through Canada. The Health Canada website, I looked at it once.

The following quotation from one director seems to sum up the feelings of many in the industry:

> It was frustrating that there was a lack of concrete information and there were a lot of maybes and third-party information and we needed clarity.

One front-line public health worker cited duplicated efforts by various government agencies seriously undermined effective communication:

> We were required to provide the same information to four or five people. It drove us crazy.

Workers in health care and the funeral industry cited the case of conflicting information from different agencies. The example most often used was one office saying "don't embalm" SARS corpses, another saying it is okay. Another was conflicting information on whether coffins should be closed.

Information was communicated during SARS but in many cases it was hedged and sometimes contradicted. Certainly there was not much information from the Province, the Coroner's Office or medical officers of health that boosted the confidence of people in the funeral industry. As one funeral service director said:

> No government stepped up and provided information. I had to watch the news to get information.

There was not enough information that, as one funeral director put it, "you could sink your teeth into."

Funeral directors needed very specific information from public health authorities, especially early in the crisis, to questions such as: Is embalming allowed and if so under what conditions? Should there be an open or closed casket? Should there be a funeral at all? Should staff be quarantined? One said:

> The press releases that went out were frightening. We needed to know how safe we were, how secure the public was, i.e., hand washing, tell us what the real risks are.

The breakdowns in communication resulted in additional stress for the bereaved. Funeral homes trying to cope with miscommunication or lack of communication were not able to supply confident answers to the families of victims. And of course, there were the cases in which lack of proper communication directly affected those trying to deal with a loss. One of the most dramatic of these was the daughter who didn't know her mother had died of SARS until it was announced in the news media. The family was never told by anyone in the health system.

The Commission heard much from the funeral industry about how it feels it was left out of the loop during SARS. There were concerns that the industry is not well represented in pandemic planning. As the Ontario Funeral Service Association said:

> During the SARS outbreak, we were not part of the inner circle and we should be because during a man-made catastrophe we deal with the end result of any epidemic or pandemic.

They told the Commission that anything that happened after death appeared to be an afterthought:

> Funeral homes hold an odd place in society. They are ignored and neglected. This has to stop.

The Association said:

> We are the first line of defence with doctors and nurses but we are not treated as if we are. Someone could die of pneumonia but the hospital, nursing home, the coroner does not have to tell us that the person had AIDS. Universal precautions are used in an embalming room, but that extra piece of information [knowledge of AIDS] may assist us in keeping our people secure.

Although regulation of the funeral industry is not within the Commission's terms of reference, many in the industry thought that structural problems in funeral home regulation contributed to the problems encountered during SARS. The industry is comprised of independent business people who offer a service to the public. Because of the importance of this service to society and the complications that can arise from it, the industry is regulated by the provincial government.

The ministry responsible for the funeral industry until 1991 was Health, for the obvious reason that many health issues are involved in handling the dead. Then the government placed regulation of the industry under Business and Consumer Services. The Commission heard many recommendations for placing funeral services back under the Ministry of Health because they are so closely linked to health care. One director said the move from Health was the worst thing that had ever happened to the industry and added:

> We are in the health care business. We deal with the dead and the living and their health. We are now in an industry of dollars and cents [in reference to being under Business and Consumer Services].

Another funeral director suggested that governments and the health system should re-evaluate the importance of funeral workers. Still another said public health should recognize the funeral industry as a resource.

Some recognition did come later. In August 2004, as Dr. Bonnie Henry, Associate Medical Officer of Health, Toronto Public Health, told the Ontario Standing

Committee on Justice Policy, studying the adequacy of Ontario's emergency management statutes:

> The funeral home association was an extremely valuable partner for us in SARS. The care of people who have died from an infectious disease is very tricky, and they're very skilled at assisting us in things like that.[841]

The roles of individual funeral operations and their associations also were raised. Toronto-area funeral homes have 11 associations, including one federal, one provincial and nine district associations, to which they can choose to belong or not. When public health agencies pass along information to these volunteer associations, some funeral homes are likely to miss out because they don't belong to them all.

The only mandatory membership is with the Board of Funeral Services, which regulates funeral homes. Questions about the Board's role and effectiveness were also raised. Because it is a regulator, should it be expected to be an information network provider? Does it have the resources to carry out such a role?

Another issue cited was the fact that individual funeral operations made their own policies for handling SARS complications. There were no set standards for body transfers, body handling, visitations and body viewing. Some in the industry wondered if standards should be set and communicated by one entity within the industry. That way whatever messages had to be delivered to a grieving family – closed casket, no public funeral, no visitations – could be delivered with authority by one agency or association. As one funeral director said:

> We need a central agency with authority to educate us and tell us what to do.

One funeral director told the Commission that during SARS:

> There needed to be a front-line person with credibility to talk to the front-line people in the funeral end of things, telling them what they know, what they are recommending, and "here is what you go with."

One cited the example of contradictory opinions over whether victims who die of SARS should be embalmed. As noted previously, funeral directors attributed the coroner's office as saying embalming was not a problem while Toronto Public Health said perhaps it was best to avoid embalming. One director said the embalming direction from Toronto Public Health was so vague that he placed several calls for clarification. None were returned.

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[841] Justice Policy Hearings, August 18, 2004.

What funeral directors seemed to need during SARS was recognition of their role in the health crisis and leadership to help guide them through it. They wanted better leadership within their own industry and from their governments, right from the Ministry of Health through to local public health boards.

Certainly many in the industry also feel that they should once again be under the regulation of Health.

Lessons Learned

Bad experiences usually carry good lessons, and this was the case with SARS. Wrapped within all the things that went wrong are some lessons for next time. Many funeral directors said that because of SARS they are prepared for the next crisis. As one said:

> We are well positioned now because of what we went through. We are ready for pandemic influenza.

That is the optimistic view, and optimism is good, but it must be backed by a plan for future outbreaks of infectious disease. There needs to be a plan that will overcome the lack of preparation that made the SARS outbreak of 2003 more difficult and more painful than it should have been. This plan should consider:

- The importance of funerals and how outbreaks can be effectively controlled while the dead are buried with dignity and without compromising either.

- How to include the funeral industry in planning for a pandemic that will require special funeral and burial procedures.

- Special attention to the possibility that the next outbreak might bring deaths far in excess of the 44 deaths in Ontario from SARS in 2003.

- What role funeral directors have or should have in the health care and public health systems.

- How to provide the funeral industry with clear-cut direction, communication and leadership that will help it do its job effectively.

- What procedures are needed for the safe, uncomplicated and efficient transfer of bodies from hospitals and other health care facilities to funeral homes.

- How public health can communicate effectively with the funeral industry and provide one authoritative information point where funeral directors can get answers to questions and concerns quickly and clearly.

- The roles of the Board of Funeral Services and the funeral industry's numerous voluntary associations, and whether their effectiveness in keeping the industry informed can be improved.

One of the best lessons is how people summon their best abilities in times of crisis. Funeral service workers, despite concerns for themselves and their families and the lack of clear information, did a good job of protecting the public while carrying out their duties to grieving families.

One of the difficulties for funeral operations was trying to find out the cause of death. Public health either didn't know immediately or was slow to say. Most funeral homes decided to take precautions no matter what:

> We learned that what was prudent was necessary.

Funeral services learned to split their shifts to reduce exposure among all staff. There were extra costs involved, however, said one director:

> When things like this happen, competition or not, public safety comes first.

One large funeral operation used red tags on body bags to indicate that a person died of SARS. This helped funeral workers to know they were handling an infected body and remind them of the precautions needed.

Recommendations

Better preparation and communication obviously are the keys to major improvements in after-death handling during any serious infectious disease outbreak. The funeral industry's problems and concerns during SARS flowed mainly from these two areas.

Although some efforts were made to communicate with the funeral industry, these proved inadequate for lack of a plan agreed to and tested in advance. The funeral industry was largely left out of the loop during the crisis. Funeral directors interviewed by the Commission noted that they still have not been included in post-SARS discussions, and have received no recognition for their efforts during the crisis.

It is not within the Commission's mandate to report on funeral home regulation. It is clear, however, that there are underlying problems with regulation and administration that impact on performance in crisis. The mix of regulatory agencies and volunteer associations that funeral directors deal with needs review, including a reopening of the discussion of what ministry or ministries are best equipped to regulate the industry. Until it is clear exactly how the funeral industry fits into, and is directed by, the health care and public health systems, it will be difficult to plan for a health care crisis that requires special funeral and burial procedures.

Specific recommendations from the funeral industry include the following:

- Hospitals should have documents and bodies together in one place, such as the morgue, so funeral home employees do not have to enter public areas of hospitals.

- Bodies should be red tagged to indicate death from infectious disease. This would let funeral home workers know what they are dealing with during body transfers.

Any planning at any level, especially in public health units and coroners' offices, should involve the funeral industry. The Commission notes that the Canadian Pandemic Influenza Plan recommends that the Funeral Services Association of Canada and/or local funeral directors be involved in any mass fatality planning.

Only if the funeral industry is involved in planning will it be able to properly update its preparedness, which will include what policies and protocols are needed for body pickups, embalming, visitations and other funeral arrangements, plus universal precautions and protective equipment.

As for communication, the best way to start improving it is to recognize up front that in any crisis it is always cited as a problem. Approaching the crisis acknowledging that is a start at dealing with it.

The industry should have a single voice during a crisis. This voice could play an important role in advising the public about how public health concerns might alter traditional funeral arrangements. A single voice would help strengthen public confidence.

The Commission recommends:

- That the underlying problems of regulation of the funeral industry should be addressed, including the questions of which ministry or ministries are best equipped to deal with the industry, and exactly how the industry fits into and is directed by the health care and public health and safety systems in relation to any public health problem or emergency that engages the need for special procedures for funerals and burials.

- That these problems be addressed by a lead ministry or agency selected by the Ontario government in conjunction with other affected ministries, the industry and local medical officers of health.

- That the funeral industry develop a single voice and communications point for dealing with government organizations such as public health, Emergency Measures Ontario, and the Ministry of Health and Long-Term Care, together with an internal communication system to ensure that one communication from government to one industry communications point will reach all members of the industry immediately.

- That a pre-planned response be developed for any public health or other emergency that engages the need for special procedures for funerals and burials; such planning to include the funeral industry, the Ministry of Health and Long-Term Care, public health, the hospital community, Emergency Measures Ontario and the Office of the Chief Coroner, supported by agreed policies, procedures, protocols, memoranda of understanding and tabletop drill exercises, would go a long way to prevent the problems that arose during SARS.

- That Emergency Measures Ontario, in consultation with the Chief Medical Officer of Health, assume the initial responsibility as lead ministry for such planning.

Clergy and Spiritual Leaders

Spiritual comfort during an outbreak of a potentially fatal disease is an issue that deserves some comment. It was specifically raised by a Protestant clergyman, who asked the Commission:

> What is the role of the clergy and spiritual leaders in the health care system of Ontario?

Because the issue is marginal to the Commission's terms of reference and produced only one response, the Commission makes no recommendation other than to say it needs to be addressed by the health system, the chaplaincy community and those it serves.

The clergyman noted that during SARS, clergy were barred from visiting patients in some hospitals, long-term care facilities and nursing homes. One Toronto hospital declared its chaplain non-essential staff during the crisis and sent him home. This was part of the overall attempt to limit SARS exposure and lessen the chances of spreading the virus. Some hospitals did allow clergy visits if precautions were taken, but a clergyman who addressed the Commission complained of inconsistency and different interpretations of rules established by health officials.

He summed up the problem:

> There exists a large percentage of the population for whom religious faith is important. They deserve spiritual care at crisis points in their lives and hospital admission is almost always a crisis point.
>
> While it varied from hospital to hospital, during the recent SARS crisis many clergy were denied access to patients. I want to be clear that when professional clergy visit they do so primarily and almost exclusively to people of faith.

He said that throughout the SARS crisis his parish was prevented from bringing the sacraments to a nursing home. He felt there was no reason why professionally trained clergy cannot follow the same basic hygienic and infection control practices as doctors and nurses.

The clergyman is not alone in his belief that spiritual care is important to medical care. A study at the University of Pennsylvania shows that 45 per cent of a study group reported that religious beliefs would influence their medical decisions if they become gravely ill.[842]

Some medical practitioners feel that patients and the health system benefit from having clergy involved. A doctor writing in the *New England Journal of Medicine* said:

> Even as we ponder whether or how we should step inside the religious worlds of our patients, we should also ask whether members of the clergy should enter more deeply into our clinical sphere. There is a great imbalance of power between patient and doctor. Often, I have been insensitive to this imbalance and have taken a patient's silence to represent tacit assent to my recommendations.
>
> A member of the clergy can speak to a doctor at eye level and act as an advocate for a patient who may be intimidated by a physician and reluctant to question or oppose his or her advice. A priest, a rabbi, or an imam can help patients to determine which clinical options are in concert with their religious imperatives and can give the physician the language with which to address the patient's spiritual needs.[843]

Clergy visits have been part of the hospital system since the beginning. Some hospitals have their own chaplains, whom they pay to provide spiritual care to anyone who desires it. Clergy from outside the institution visit when requested by patients, patients' relatives or staff. They sometimes are asked by a hospital chaplain's service to volunteer to handle spiritual matters many hours a week in certain parts of the institution.

Rules and practices related to clergy visits, however, have become confused and inconsistent, mainly because of privacy concerns. It used to be, and still is the case in some hospitals, that visiting clergy are given access to a patients' list that includes religious denominations. Only clergy who have been pre-screened to ensure they have valid qualifications are allowed to see the list. An Anglican priest, for instance, is allowed to see the Anglican list, then proceeds to a nursing station and asks to visit the Anglican patients whom he or she has noted from the list. The practice, according to this clergyman, is to ask the patient if he or she would like the minister to stay and visit. If the answer is no, then the clergy person leaves:

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[842] Do Patients Want Physicians to Inquire About Their Spiritual or Religious Beliefs If They Become Gravely Ill? *Archives of Internal Medicine*; Vol. 159 No. 15, August 9, 1999.

[843] "God at the Bedside", Jerome Groopman, *The New England Journal of Medicine*, March 18, 2004.

> They are not attempting to evangelize those who are weak and vulnerable but rather seek to bring comfort and support to people of faith.

The information on religious affiliation used to be collected by hospital admitting staff when patients arrive at the hospital. However, this clergyman told the Commission that very often the question of religious affiliation is not asked. Some staff think that asking for religious affiliation is a privacy issue, but he said the people being asked are free to note their religious tradition, or simply to say they have none.

He added:

> For some reason the staff in the hospitals feel reluctant to put the question, thereby denying patients access to spiritual care. I would like to see a concerted effort by hospital staff to provide this information to community clergy. It's a question that needs to be thoroughly discussed hospital by hospital.

An Anglican chaplain has noted publicly that in at least one Toronto hospital she is now forced to make "cold calls" on patients, walking door to door in the hospital looking for Anglican patients.[844] Sometimes she relies on sympathetic staff to tell her which patients might wish to see her.

A nurse who contracted SARS on the job and was hospitalized raised the issue of patient privacy before the Commission. She complained that while in hospital she felt abandoned, not having been visited by any managerial staff and the chaplain with whom she had worked closely. Later, when she asked the chaplain why he had not contacted her during her illness, he said he tried but hospital managers cited confidentiality concerns and refused to give him a list of names.

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[844] "Privacy laws force chaplains to make 'cold call'", *The Anglican Journal Canada*, April 2004 (The Anglican Journal).

She added:

> And that was always something that was so special. that the chaplains were always there for the staff. They knew us. They knew what was going on in our lives.

A clergyman writing in the *Anglican Journal* said there is a concern among Ontario's churches that new privacy legislation will limit pastoral care in hospitals. The article said churches have asked for changes that "clearly state that providing basic information to clergy and religious caregivers is not a violation of the Act."[845] and that chaplaincy be included in the definition of health care providers.

The clergyman who contacted the Commission expressed concerns about a climate of fear and mistrust, which had significant impact on the Toronto Asian community. He also noted that part of the SARS crisis occurred at Easter of 2003 and that warnings against large gatherings reduced church attendance. He said:

> Fear is not a positive attitude. Faith can be an antidote to fear. People cut off from their spiritual traditions get unhealthy. People who find faith important find strength that helps them live their lives. We must guard against denying people their religious freedoms.

The Commission notes how one religious group managed to observe quarantine and still bring Easter services to its members. Bukas Loob Sa Diyos (BLD), Roman Catholic charismatic group, had its 500 members quarantined over Easter because of a SARS contact. Although there had been concern that some members might attend church despite the quarantine, the group's leaders arranged to broadcast Easter services over cable TV, and set up home delivery of Communion.

The clergy concerns brought before the Commission raise some sensitive issues that should be addressed. Few people would deny that there is a role for clergy in hospitals in offering spiritual support to those who want it. There are, however, those who resent any religious intrusion on their personal privacy. However, there are no overall policies or protocols that would provide some clarity and consistency to the situation. In order to address this gap, the Commission recommends that the Ministry of Health and Long-Term Care and the Ontario Hospital Association and the chaplaincy community engage in multifaith consultations toward the development of the policies and protocols required to address chaplaincy services during an outbreak of an infectious disease. These consultations could address the difficult questions of how to make chaplaincy service available to those who want it, without intruding on the privacy of those who do not.

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[845] *The Anglican Journal*, April 2004.

CHAPTER SIX: The Nurses' Survey

Preface

Nurses: ONA SARS Survey

In 2003, following the SARS outbreak, the Ontario Nurses Association sent out questionnaires soliciting the experiences of Ontario nurses during SARS. The ONA, founded in 1973, is the trade union representing 52,500 registered nurses and allied health professionals working in hospitals, long-term care facilities, public health, community agencies and industry.

The ONA received 1,536 completed questionnaires and provided them to the SARS Commission to help in its investigation. The questionnaires helped the Commission identify nurses who wished to be interviewed.

To analyze fully this rich mine of experience, the Commission needed outside help with the following mix of experience, expertise and reputation:

- the statistical expertise and experience to analyze, assess and interpret the information in the questionnaires;
- the capability and expertise to develop and implement an appropriate database;
- the capability and expertise to handle a large amount of raw data and accurately input the qualitative and quantitative answers into the database;
- sufficient experience and expertise to analyze issues arising from the SARS outbreak;
- the ability to safeguard the confidential information contained in the questionnaires;
- an in-depth understanding of the nature and characteristics of the Ontario health care system;
- a track record for meeting targets and objectives; and
- a sound reputation in the health care community.

The Commission retained the Hay Health Care Consulting Group, a Toronto-based subsidiary of the Hay Group, an international management consultant with world headquarters in Philadelphia. The Hay Group played a significant role in the report of the National Advisory Committee on SARS and Public Health, headed by Dr. David Naylor ("the Naylor Report").

Nurses who responded to the ONA questionnaire provided a rich source of information on the experience of Ontario's nurses during the SARS outbreak. They provide compelling observations on what went right during the SARS outbreak, what went wrong, what lessons we should learn. They give us a picture of the dangerous and frightening work of nurses on the front lines. The depth, scope and quality of the responses of these nurses give us a strong and candid insight into what actually happened.

This material is organized as follows:

1. Introduction
2. ONA SARS Survey: Hay Group Analysis
3. Data Analysis
4. Selected Quotations from Individual Nurses

Highlights of the report include:

- Two-thirds said the SARS outbreak changed their attitude to the nursing profession.
- More than half felt their SARS work was not adequately respected, or they were unsure if it was respected.
- Two-thirds said SARS affected their families through isolation, anxiety and fear.
- Almost two-thirds felt their health and safety had been compromised during the SARS outbreak.
- More than half were concerned about the adequacy of the protection they were given.
- More than three-quarters were unaware of any Ministry of Labour worker protection activity at their workplace.

These concerns are reflected in quotations such as:

> I was torn between staying and quitting because my husband was scared.

> One of our docs said you nurses are crazy to look after these people.
>
> It was hard but we did it.
>
> What happens the next time?
>
> Nobody listens to nurses.
>
> Fear … job not worth risk of dying. Lack of trust that nursing was being protected.
>
> Totally devastating on family life.

Dozens more of these quotations are found in the section "Selected Quotations from Individual Nurses." As the Hay Group analysis notes, the survey is not statistically representative of all nurses affected by SARS or of nurses in general. However, the responses provide invaluable insight into what it was like to be a nurse during the SARS outbreak.

1.0 Introduction

1.1 The SARS Commission

The independent Commission to Investigate the Introduction and Spread of Severe Acute Respiratory Syndrome (SARS) was established by the Government of Ontario as an investigation under section 78 of the *Health Protection and Promotion Act*. Mr. Justice Archie Campbell of the Ontario Superior Court of Justice was appointed Commissioner.

The Commission is investigating how the SARS virus came to the province, how the virus spread and how it was dealt with. It is looking at all aspects of the outbreak to provide a public report on what happened, what lessons have been learned and what improvements should be made.

1.2 The Survey

> ***A survey conducted by the Ontario Nurses' Association regarding the experience of nurses in Ontario during the SARS crisis***

As part of its investigation, the Commission was provided with responses to a survey conducted by the Ontario Nurses' Association regarding the experience of nurses in Ontario during the SARS crisis. The ONA conducted a survey of all its members in August 2003. This survey focused on the impact of the outbreak and spread of severe acute respiratory syndrome (SARS) on health care workers. The Commission has now contracted with the Hay Health Care Consulting Group to assist in analyzing and interpreting the responses to these surveys.

1.3 Findings from the Survey

This report presents high-level results and key findings from the survey sent to Ontario nurses following the SARS crisis. The survey presented questions under the following headings:

- Background
- Impact Issues
- Protective Equipment
- Facilities Issues
- Health and Safety Committees
- Ministry of Labour
- Workplace Safety and Insurance Board
- Ministry of Health and Long-Term Care Directives
- Spread and Containment Issues
- Additional Feedback

1.4 Defining SARS Hospitals

According to the Ministry of Health and Long-Term Care (MOHLTC), the following hospitals treated at least one probable or suspected SARS case during either phase one or phase two of the SARS crisis in Toronto:

- Bridgepoint Hospital
- Credit Valley Hospital
- Hospital for Sick Children
- Humber River Regional Hospital
- Lakeridge Health Corporation
- Markham Stouffville Hospital
- North York General Hospital
- Rouge Valley Health System
- Southlake Regional Health Centre
- St. Joseph Health Care, Toronto
- St. Michael's Hospital
- Sunnybrook and Women's College Health Sciences Centre
- The Scarborough Hospital
- Toronto East General Hospital
- Trillium Health Centre
- University Health Network

- West Parry Sound Health Centre
- William Osler Health Centre
- York Central Hospital

For analytic and comparison purposes, these hospitals have been identified as SARS facilities in this report.

Two of these facilities, North York General Hospital and The Scarborough Hospital were forced to close as a result of the SARS crisis. These hospitals are known to be the the most affected by SARS.

2.0 Background

Key Finding: Over half of respondents from SARS hospitals stated that they provided care to a suspect/probable SARS patient.

- The overall response rate was almost 10% of all nurses in GTA hospitals; therefore, the sample cannot be considered statistically representative of all nurses affected by SARS, or of nurses in general. The strength of the survey is in the quality and depth of responses by individual nurses and the insight it gives into their experience.
- The responses to the survey provide a perspective on nurses' experience during the SARS crisis in the GTA.
- 85% of responses came from acute care hospitals, 15% from other facility types (e.g., rehab, nursing homes, Community Care Access Centres)
- 83% of responses came from institutions defined by the Ministry of Health and Long-Term Care (MOHLTC) as SARS hospitals.
- 55% of responses came from seven SARS acute care hospitals: University Health Network (UHN), St. Michael's Hospital, Sunnybrook and Women's College Health Sciences Centre (S&WCHSC), The Scarborough Hospital, William Osler Health Centre, Southlake Regional Health Centre and North York General Hospital.
- The response rate for these seven facilities was as follows:

Hospital	Total ONA Members	Survey Responses	Response Rate
University Health Network	1,923	160	8.3%
St. Michael's Hospital	1,181	152	12.9%
Sunnybrook and Women's College Health Sciences Centre	1,653	140	8.5%
The Scarborough Hospital	956	100	10.5%
William Osler Health Centre	1,158	91	7.9%
Southlake Regional Health Centre	565	85	15.0%
North York General Hospital	798	84	10.5%

- 60% of responses came from facilities within the GTA; 93% of these responses were from nurses in acute care hospitals.
- Responses came from a very experienced group of nurses: 15% had >30 years' experience, 31% had 21-30 years' experience, 30% had 11-20 years' experience, and 22% had ≤10 years' experience.

3.0 Impact Issues

Key Findings: Two-thirds of respondents stated that the SARS outbreak changed their attitude toward the nursing profession. 54.5% of respondents did not feel that their work with respect to the SARS crisis was treated with adequate respect, or were unsure if it was respected. Overall, respondents from SARS hospitals felt more affected by the SARS crisis than did respondents from non-SARS hospitals.

- Two-thirds of respondents stated that the SARS outbreak changed their attitude toward the nursing profession. Rates were higher in SARS hospitals (68.6%) than in non-SARS hospitals (56.9%). Rates were highest in two SARS hospitals: North York General Hospital (81%) and The Scarborough Hospital (83%).
- Overall, 54.5% of respondents did not feel that their work with respect to the SARS crisis was treated with adequate respect, or were unsure if it was respected. More specifically, 42% did not feel their work was respected, while 12.5% were unsure. 45.5% felt their work was respected.
- Some of the respondents expressed concern over increased risk of being a front-line worker, desire to leave the field of nursing, an increased awareness of the dangers of the job, feelings that nurses are undervalued, a more acute awareness of infectious diseases, and intentions to use more precautions with patients.

- 7.6% of respondents reported experiencing SARS symptoms during or following the SARS outbreak. The two SARS hospitals with the highest rates of nurses reporting that they experienced SARS symptoms were North York General Hospital (18%) and The Scarborough Hospital (24%).
- At the time of the survey, 3.6% of respondents continued to feel residual symptoms that they personally associated with their exposure to the SARS illness, such as stress, anxiety, fear, fatigue and weakness; 32.4% said they did not feel residual symptoms, and 64% were unsure.
- Two-thirds of respondents felt that the SARS outbreak affected their family life. The most common themes for this impact were:
  — Isolation
  — Stress and/or anxiety
  — Fear for family's health
  — Family and/or friends concerned for the respondent's health
  — Quarantined, and friends and/or family quarantined
  — Emotional drain or depression
- 27% of respondents felt they were suffering post-traumatic stress as a result of the SARS outbreak (28% in SARS hospitals, 21% in non-SARS hospitals). North York General Hospital and The Scarborough Hospital had the highest rates: 57.1% and 47.0% respectively.

4.0 Safety Concerns

Key Finding: 58% of respondents felt that their health and safety were compromised at some time during the SARS outbreak.

- 58% of respondents felt that their health and safety were compromised at some time during the SARS outbreak.
- 15% or respondents declined work as a result of the SARS outbreak.
- 5% of respondents refused to work as a result of SARS, although 34% considered refusing work.

5.0 Protective Equipment for Staff

Key Finding: The vast majority of respondents had not been fit-tested for or trained in the use of personal protective equipment (PPE) before SARS. Many respondents found the PPE to be difficult to use and fit properly, and most experienced some form of side effect from the use of PPE.

- 82% of all respondents were required to wear some form of personal protective equipment (PPE). The rate was higher in SARS hospitals (84%) than in non-SARS hospitals (71%).
- Examples of PPE that respondents were provided included gowns, gloves, protective eyewear, masks, Stryker suits and boots.
- 27% of respondents said that they were not provided PPE at the beginning of the SARS outbreak but were required to wear PPE at a later time. Some of these respondents said that they were instructed to wear PPE during the second wave of SARS, when dealing with suspected SARS patients, or at some point in the early stages of the outbreak.
- Of those who were provided masks (78% of respondents), nearly all (95.5%) were given N95 respirators or equivalent.
- Only 5% of respondents had been fit-tested and/or trained and instructed in the care, use and limitations of PPE before SARS. However, after the SARS outbreak over 67% of respondents were fit-tested and/or trained and instructed in the care, use and limitations of PPE.
- 23% of respondents did not feel they were given clear direction at all stages of the SARS outbreak as to what PPE they should have been wearing and in what circumstances. This rate was generally higher in the Toronto acute care SARS hospitals.
- When direction was provided, respondents indicated that it came from infection control, administration or management and other sources. Instructions came in many forms, including emails; verbal announcements in person; memos, bulletins or letters; staff meetings or announcements from management; daily updates and broadcasts.
- 54% of respondents expressed concern with the direction and/or the adequacy of the protection they were given. Those who provided details mentioned the following types of concerns:
  — Changing protocols
  — Concerns over proper mask fitting
  — Lack of communication
  — Lack of available adequate equipment
  — General confusion

  — Timing of mask fitting
  — Lack of proper instruction on mask type and use
  — Insufficiently sterile conditions or risk of cross-infection

- 53% of respondents experienced confusion about which masks would provide the necessary protection.
- 44% of respondents indicated that they raised issues with management regarding availability, type or use of PPE. Rates were higher in designated SARS hospitals (46.5%) than in non-SARS hospitals (34%). The rate was substantially higher (57%) for respondents who worked in designated SARS units.
- 45.5% of respondents felt that the supply of masks and/or other PPE during the SARS crisis was inadequate; 43.5% felt there was adequate supply, and 11% didn't know.
- Overall, 35.6% of respondents were told to save a mask for reuse. The rate was consistent between SARS and non-SARS acute care facilities (35% and 34.5% respectively), but 67.7% of respondents from non-acute non-SARS hospitals were told to reuse a mask.
- 26% of respondents were told at some point that the cost of masks and/or other PPE was an issue.
- 30% of respondents stated that concerns were expressed about the perception created among the public by staff wearing masks.
- 34% of respondents felt there was not enough training on the proper use of PPE; 56% felt the training was adequate, and 10% didn't know.
- 34% of respondents did not know if Stryker suits (or other full body protection) were available for staff use in the facility; 38% felt there was adequate supply of full body protection, and 28% felt there was not.
- 54% of respondents were not trained in the use of full body protectio; 28% were trained, and 18% did not know.
- Fewer than 10% of respondents used a Stryker suit or other full body protection during the SARS crisis. Most uses were for treating SARS or probable SARS patients, for intubation/extubation/bronchoscopy and in isolation units.
- Over 70% of respondents experienced some side effects from the use of PPE, including headaches, shortness of breath, facial rash, fatigue and dizziness.
- 50% of respondents experienced problems with masks not fitting properly, and 8% were told to return to work without a properly fitted mask.
- 67% of respondents were advised of the importance of wearing properly fitted masks.
- 26% of respondents indicated that risk assessments were conducted on their unit to identify SARS hazards and protection that was necessary; 46% said risk assessments were not conducted, and 28% didn't know.
- 70 respondents identified themselves as having had suspect/probable SARS. 19 of

these individuals (27%) felt they had acquired the illness due to poor fit-testing for PPE.

6.0 Ministry of Labour

Key Finding: Most respondents were unaware of any interaction between their facility and the Ministry of Labour (MOL), or of whether the MOL had come to inspect their facility.

- 92% of respondents said neither they nor their family members contacted the MOL and that they were not aware of others who had contacted the MOL during the SARS outbreak for advice or to lodge a health and safety complaint; 8% said they had contacted the MOL or knew someone who had.
- 81% of respondents were not aware of whether the MOL issued any orders or provided any advice regarding the SARS outbreak; 15% of respondents said that the MOL had not provided advice, and 4% said it had.
- 77% of respondents did not know if the MOL had visited their facility at any time on any SARS-related matter; 19% of respondents said that the MOL had not visited, and 4% said it had.

7.0 Wage Loss

Key Finding: Many respondents were quarantined, but few lost income as a result of experiencing potential SARS symptoms.

- 29% of respondents were quarantined (either home or working quarantine) during the SARS outbreak. Rates were higher in SARS hospitals (30.7%) than in non-SARS hospitals (18.7%).
- Of respondents who were quarantined:
  - — 57.5% were quarantined for 10 days or more.
  - — Only 4.3% indicated that they experienced SARS symptoms while under quarantine; 48.5% were unsure whether or not they had SARS-like symptoms. The remaining 47.2% did not experience SARS symptoms while under quarantine.
- Only 9% of respondents lost hours or income as a result of experiencing SARS symptoms; 70% did not, while 21% were unsure.
- Of respondents who lost hours or income as a result of experiencing SARS symptoms:

  - 10% stated that they lost hours but not income (as they received special "SARS pay").
  - 19% stated that they lost income because they were not allowed to work a second job or overtime during the crisis.
- The majority of respondents did not submit Workplace Safety and Insurance Board (WSIB) claims, and did not know whether their employers had interacted with the WSIB regarding SARS matters.

8.0 Spread and Containment Issues

Key Finding: Some respondents (12%) reported that they or other health care workers were not listened to when they reported possible SARS symptoms in patients.

- 18% of respondents reported that they were aware of instances where possible SARS patients were inappropriately handled. For example, respondents mentioned patients who were not put in negative pressure or isolation rooms, inadequate precautions taken for patient transfers, people not being treated as SARS patients and improper screening.
- 17% of respondents reported that they were aware of suspect or probable SARS patients who were not identified promptly.
- 12% of respondents reported that they were aware of circumstances where they or other nurses or health care workers were not listened to when they reported possible SARS symptoms in patients. The rate was higher in SARS hospitals (14.2%) than in non-SARS hospitals (8.8%). All of these respondents mentioned raising concerns regarding transfers of patients, hearing about other facilities (particularly North York General Hospital) through the media and having difficulty getting doctors to screen or assess patients.
- Respondents provided a broad range of suggestions regarding how the spread of SARS and the health risk created to workers could have been dealt with within their facilities:
  - More or better communication, information and/or instructions
  - PPE worn earlier and at all times
  - More attention by management and other leaders to what nurses and other front-line staff said
  - More or proper isolation or negative pressure rooms
  - Better infection control practices
  - More thorough screening

- 17% of respondents stated that their employer arranged for transportation for staff on working quarantine; 62% did not know if their employer did this.

9.0 Compliance with MOHLTC/Facility Directives

- 48% of respondents reported that they witnessed failures to comply with MOHLTC or facility directives during the SARS outbreak by physicians, screeners, visitors, patients, nonprofessionals or professional staff; 40% did not, and 12% were unsure.

10.0 Additional Feedback

- 66% of respondents identified sources from which they sought the latest information on SARS. Examples included:
  — Internet/computer/web (271 responses, 27.9%)
  — News/media (266 responses, 27.3%)
  — Newspapers (186 responses, 19.1%)
  — TV (175 responses, 18.0%)
  — Hospital email/intranet (164 responses, 16.9%)
  — Email (119 responses, 12.2%)
  — Ministry of Health and Long-Term Care (110 responses, 11.3%)
  — Bulletins/memos/postings (109 responses, 11.2%)
  — Management (77 responses, 7.9%)
  — Work/hospital (general) (61 responses, 6.3%)
  — Co-workers/word of mouth (48 responses, 4.9%)
  — Infection control (47 responses, 4.8%)
  — Radio (44 responses, 4.5%)
  — Meetings/forums/briefings (29 responses, 3.0%)
  — Hotline/telehealth/voicemail (26 responses, 2.7%)
  — World Health Organization (25 responses, 2.6%)
  — Ontario Nurses Association (21 responses, 2.2%)
  — Public Health (19 responses, 2.0%)
  — Communication/SARS binder (12 responses, 1.2%)

(Note that the question used to collect these responses was open-ended, and the answers were not mutually exclusive. For instance, "Internet" could be the ONA website, "bulletins" could be ONA bulletins, and "news/media" could include TV.)

SARS and Nurses
Selected quotations from the Hay Group/ ONA questionnaire

Introduction

The ONA's 2003 survey of nursing experiences during SARS garnered 1,536 completed questionnaires. These respondents replied to a series of questions ranging from impact on family life to experiences with personal protection equipment (PPE) to how health institutions addressed health and safety issues.

The thousands of comments supplied by ONA members are too many to include in this report. Following is a sampling of the answers given by the nurses in their responses. The complete list of questions and all replies can be found in the documents archived by the Commission.

Q1.4 Do you still experience any residual symptoms that you associate with your exposure to SARS illness? Please explain.

The fear of contracting SARS is still very strong. We see 60 patients/day in my unit, as well as assisting with bronchoscopies. Hopefully none will ever have SARS.

Fear of going to work sometimes. Anxious. Repeat tasks at work, easily frustrated at work and home. Want to be alone lots of times.

I hated to see my children upset because I wore a mask. They couldn't … hug me. People in other cities were relieved I wasn't going to see them.

I still have periods (especially when discussing SARS outbreak) when I am teary eyed and angry that as front line workers we were put at such a high risk to contract such a horrible disease.

Only stress related. Also I find after any type of activity my muscles are very sore but it is improving. My shortness of breath is improved greatly.

Still become fatigued easily. Short-term memory has been affected. Unable to do the physical things I did prior to SARS. Short of breath with exertion.

Q1.5 Describe the impact of SARS on you and your family: personally, medically, socially, emotionally.

While placed on work quarantine, being "trapped" at home alone was very hard and I felt a lot of sadness and loneliness.

Personally we were all stressed out because of little information and when information was received confusion with daily changing of directions and the fear of the unknown if I should bring something so serious to my family.

Personally and emotionally traumatic as classmates of my son were pulled out of school when he went. My ex-husband refused to care for his son during my quarantine to rule out SARS for fear of exposure.

Afraid of spreading SARS to family nightly depressed. Getting very hypoxic at work wearing N95 mask. Broke out with facial rash around mask. Friends did not want to meet us as healthcare workers.

Family worries about SARS and they don't want to come to visit me. Not welcome to visit them.

Fear that I may contract illness and bring it home – spread it.

Fear. Job not worth risk of dying for. Lack of trust that nursing was being protected.

While no one at home got SARS, my children were very afraid that I would get it. They asked me every day if anyone at work had it. My children are 15 and 12.

Emotionally draining. There was fear, anxiety, a feeling the hospital may not be telling you everything. Then, we became one of four SARS designated hospitals and that was just thrust upon us with no input. I found out by watching TV news.

Made me realize the high risk involved in my career. We are so susceptible to these new viruses. Reinforced the good practices of good hand washing, the ease of spread of this disease.

There was not a lot of information or safety being a front line caregiver. I really feel that it was only luck that kept a lot of medical staff from dying.

I experienced stress and anxiety re working in critical care with full isolation. Precautions instituted throughout 12-hour shifts. This caused fatigue, headaches, difficulty concentrating. My family worried re risk of exposure to me and them.

My family was afraid for me and themselves. They also wouldn't tell anyone that I was a nurse.

For the time of the two outbreaks didn't attend any social functions, didn't visit grandchildren, cancelled a conference, limited contact with people in crowded areas ie: stores, grocery shopping etc. The neighbours, relatives would not visit from out of town …

My family were worried I would get sick. Friends reluctant to be exposed to me or my family. I already have a disease – well managed and stable. SARS could have changed that or could have been fatal because of my disease.

Wearing a mask, gown, gloves, and goggles for entire shifts for weeks on end was exhausting. I came home and slept for 1-2 hours after each eight-hour day for the first two weeks. Not seeing anyone smile because of the masks was depressing.

Every day there was anxiety about the uncertainty of possibly having contact with SARS and bringing it home.

Worried about bringing SARS home to family. My daughter was married end of April. Worried family would be quarantined, some guests cancelled.

Did not go out much – family worried I would bring home – didn't see my grandchildren for many weeks, forced isolation to protect my own.

Hesitant to say I was a nurse as some people in general public were afraid of nurses. Didn't go out much as we were advised not to mix with large crowds.

Workers from other parts of the hospital backed away from us once they found out that we work with SARS patients. Parents at my daughter's school weren't as friendly. My husband was fearful for me. Social activities were cancelled.

I absolutely hated my job. This did take a toll on my patient care, which only further increased my anxiety.

Totally devastating on family life.

It felt like being in a war because of the danger element. We were also shunned by others who were fearful of being contaminated by us because I am a nurse.

I was not prepared for how working with SARS patients would change my professional and personal life. The unit became like a war zone with fear: high anxiety amongst all the staff. Personally I was shunned from common places in my community ie the school my children attend.

Loss of shifts due to bed closures very frightening – fear of the unknown … did not want to tell people where you worked as felt shunned.

Being the single parent of two children, and their sole supporter it was quite frightening at first especially as more staff were contacting the disease. But I adjusted and learned to cope. I reassured the children and they believe in me.

My ill husband's homecare nurses refused to care for him because SARS in my hospital. Moved him to relatives outside city for care. I was quarantined and barred from several hospitals when trying to take him for appointments. I was in physio for injury – treatments cancelled, impaired my recovery.

I hated going to work and putting me and my family at risk; I feel that I did not sign up for this. No choice in the matter.

I was mostly angry at the lack of info that we received from our hospital. I never knew whether there were ever any SARS patients in the hospital. Reading memos and info takes time and often we were too busy with patient care to read these in a timely fashion.

Slept in a separate room from spouse, family wore masks at home.

Socially, some friends afraid to have contact with me and my husband. Unable to visit elderly grandparents in nursing homes. They didn't understand why.

I was on work quarantine once for 7 days. It was difficult to wear a mask at home when around family members, difficult to breathe, often just went to my room so didn't have to wear mask. Older son got groceries. Afraid my 12-year-old son would be alienated at school.

I am scared for next SARS. I will not work in SARS unit again!

My spouse was the most fearful that I would contract SARS. He was worried for my health and also for our family. When I got the call that I had to do quarantine, I'll never forget those words "there has been a breach in the isolation technique" and that I may have been exposed. I burst into tears.

Barred from social family events. Husband insisted that I stay away from his children, grandchildren. I felt I had to conceal fact I was an RN from other acquaintances also. My doctor for 35 years insisted I stand outside his office building while I waited for consultation.

Very difficult and uncomfortable due to double gowning and gloves, shields, goggles, hand cover, hot inside the room, difficult to breathe due to mask on face. I tried hard to restrict social activities or no socialization at all, keep all clothes and things separated from the rest of the family.

I was isolated from my grandchildren for 6 months by my worried son. I missed them.

Very much isolated from loved ones. My family thought I was going to die. I was very drained physically and emotionally. In fact, I was asked by my spouse's company to quit or spouse to quit for the company's staff safety.

Very scary[,] not enough information given to us by hospital. Difficult to get the right mask. Unable to see family for a period of time. It has brought fear in me that has never gone away.

My family was apprehensive and frightened for me. They think that I should quit nursing – it's unsafe. My social life was NIL. I felt emotionally drained and tired and lonely.

Terrible. Developed panic attacks. Went to physician for Ativan. Had fights with husband and teenagers.

Personally, many people did not want to see me at all. When encountered people on the street, people would move away as quick as possible when they heard I was a nurse at North York. Even my dermatologist couldn't get out of the office quick enough.

I was stressed emotionally by the hospital's attempt to bring in a specific SARS team and the miscommunication that was involved. I was "in charge" during this time and felt that I had all the responsibility and no control.

I experienced fear … and social isolation from family, friends and strangers. We weren't provided with adequate education re: updates and SARS. Led to frustration, anger, resentment towards my hospital and profession. Morale was at a low. Isolation gear worn fit unwell and exhausted.

I was afraid for my life and that of my family. When in a charge nurse position I assisted at hospital-wide codes and did not feel we received the appropriate equipment needed for protection.

It gave me a different outlook on life and made me realize how hazardous our job really is, when I looked after SARS patients and when SARS patients were in our unit. Isolated myself from my family and very depressed and worried about being a victim and still have paranoia. Nursing will not be same.

It is indescribable. I felt scared, isolated, anxious. There was no leaving work at work. I dreamed of it. It was all anyone talked about. It was all over the TV. No getting away from it.

My best friend refused to have physical contact with me; I was refused a cab ride to hospital; I was shunned by a clinic to have a non-medical procedure performed; I can't describe the magnitude of stress felt over my job and discrimination experienced.

Fear of family members. Felt like a leper. My children were not allowed near some other children. Nightmares 1st few days. Husband had anger towards me when my mask fitting failed after I worked on SARS unit.

Q1.6 Have you suffered post-traumatic stress as a result of the SARS outbreak (i.e., depression, anxiety, sleeplessness, fear tendency, nightmares)

Concerned about my future as a healthcare provider. Have no interest in providing "hands on" healthcare nursing.

What will be next? Will SARS or something worse return? I no longer feel safe going to work.

Afraid that SARS will return, afraid to get sick and die.

I feel mixed emotions daily about working in healthcare.

Fear of masks, hate my job now.

Anxiety has increased greatly. Very concerned (suspicious) with anyone with respiratory symptoms.

We all live in fear of the return of SARS and the threat of having to care for SARS patients with no training.

Anxiety. When will it occur again? What will be the next outbreak and will it be worse?

Yes. The whole experience was extremely stressful. Our unit was short staffed all the time because nurses could not work in other hospitals. I was asked to do overtime. Currently suffering depression and on antidepressants.

Depression, anxiety, sleeplessness, stress. I will not work in the nursing field again as we have to wear the isolation gear constantly. I don't get paid enough to die for my job or put my family at risk.

I feared for my life every day.

I've seen a psychiatrist due to feelings of insecurity, tensions, squabbling at work related to who should/should not be sent to work in the SARS unit. I was told because I was junior staff I would have to work there whether I wanted to or not. I've become adjusted to working in that area.

I have been off work since July 7. I have been diagnosed with depression, but I feel it may really be PTSD.

I went through a very emotional period this summer, where I would break down and cry for no reason. I am concerned about a career change.

I noticed my youngest child voiced concerns and appeared anxious when I was going to work. This always made me feel sad.

I experience sleepless nights in which I lie awake and wonder what if. What if I had gotten sick, what if it returns or something worse attacks us. What do we do?

Would like to leave the hospital and I'm distrustful.

I find I have become extremely nervous in dealing with the public. I don't want to speak to patients or visitors without wearing a mask.

I now hate my job, depression, not sleeping.

I quit my job and found a safer one. Feel much better now.

I feel isolated. Do more research for myself to look out for myself. The hospital only cares about money and how they look to the public and media.

Depression. Wondering what future of this profession holds.

Still have a little fear – which was brought back when having the mask fit testing done recently. Fear of it happening again and wondering if I will be lucky again.

I was depressed. Felt like I did not want to save lives anymore.

Never had a nightmare from work, except when wearing the mask. I was upset with my decision to become a nurse. I continue to reflect on my choice to be a nurse. I mean I could have been anything. Why did I choose a profession that put my life at risk with very little benefits?

Some days I feel extreme anger, other days, anxiety about being at the hospital, afraid to take off masks. Some nightmares of disasters.

Angry, agitated, argumentative at work. Became quite withdrawn at home. Felt that no one could understand it without going through the experience.

For the first month and a half my moods were very up and down. I cried a lot. I was unable to deal with my 3 children. Noise bothered me a lot. My sleep was very interrupted.

As well my partner was let go from his job because of association with me. He was told it was a restructuring but he was treated with such disrespect by his employer of 8 years.

It is often the subject of dreams. Fear of possible future exposures.

Q1.9 Has SARS and the response to it changed your attitude towards the nursing profession? If so, please explain.

It has made me prouder of my job. I have been happier in my job, mainly because the situation proved what nurses are made of. We pulled together as did other members of the healthcare team – that touched me deeply!

As front-line workers, we are at extreme risks, but often employers do not react quick enough to protect their employees, putting them at increased risks.

Thought about leaving the profession despite a usually positive attitude towards nursing. Still a thought if I feel like I will be forced into performing tasks/duties without adequate training.

Realize it's every man for himself. Management took care of SARS but no one cared for the caregivers.

Do not want to provide "hands on" nursing care. No, little or any protection for healthcare providers dealing with the unknown.

It opened up my eyes again to the dangers that surround the nursing field and makes you really think more re: your profession as it is really not appreciated and recognized enough.

Since I trained in the 70's, isolation techniques have not been taken as seriously by the new grads as they figure there's a drug for everything.

Learn to look out for yourself and trust your instincts. When in doubt, be extra cautious.

SARS has helped the general public witness the importance of our profession and will help build more respect for it.

A wakeup call to return to better techniques – cleaning[,] housekeeping, infection control measures, swabs, keeping infection data etc.

I would not encourage someone to enter nursing.

There is no room for a casual attitude.

After 30 years of nursing, I feel the risks aren't worth it. This is not what I went into nursing for.

I feel that nurses were the front line workers and needed to be listened to more than they were.

Nursing has always been about caring for others. Nurses now have to speak up for themselves and not rely on administration to protect us.

It seems to me that we had become lax in isolation protocols and in general "clean" ideals over the years. Visiting hours and protocols seem non-existent and patients and relatives have a full run of hospital. Need to return to a more regulated policy of visiting.

Just to be more protective of my health. But I will still nurse and enjoy it.

Things do seem to be getting worse. I am beginning to feel like nursing is almost not worth the risk anymore. The pay we receive for working in these circumstances is very poor. I am not sure anymore whether being a nurse is worth risking myself or my family and friends.

I still enjoy my work. I find it fulfilling but I am very concerned what I will be potentially exposed to and or expose my family to in the future.

Who knew my work could kill me or my family?

If this is the new normal … I would have quit two years ago. Now money is really the reason I go to work.

Distrust of upper management. It felt like they were more worried about budget and public opinion then caring for their staff.

Aware that self-protection as well as good technique with patients is more important than ever. Even more devastating illnesses could come along. We're either a "bridge" or a "defense wall" to their spread.

Nurses are devalued. Any other profession in the same situation would have received danger pay. We literally suffered; rebreathing our own carbon dioxide and soaking in our own sweat – feeling like we would pass out. Many people got headaches from the masks.

I really hate wearing protective garb. It takes away the personal feelings with patients ie. speaking with patients in crisis, behind a mask.

If another outbreak, I would consider retiring.

For the most part I always felt I had the control to protect myself ie being vigilant, re needle stick TB exposure. But with new disease … the risk factor(s) in this career have increased significantly.

Have never seen anything like it in my 30 years of nursing. There is now a "new normal." I'm managing for now. Not sure how long I want to continue to nurse.

Couldn't work through it again. Not enough staff. We are all burnt out[,] it was overwhelming. It was frightening[,] I was scared for my family.

I enjoy nursing however I feel that the upper management had no clue re: the care involved in nursing a SARS suspect/probably case.

Yes, I feel that nurses' opinions need to be respected. ie. the situation at NYGH. I also felt that my hospital lessened the SARS restrictions too soon. I am proud of all the nurses who cared for SARS patient and I grieve the ones who lost their lives.

I feel very vulnerable to life threatening illness. I don't feel confident that we will be protected. I was planning a move out of the city. SARS just hastens my decision.

Despite the stress related to SARS I realized that this was a crisis, and this was my duty to be a nurse who could make a difference. My 82-year-old aunt sent me a thank you card that referred to me as a "hero."

I was always aware that being in the profession could one day cause my death. But I never realized how easily my family's health could be compromised [–] not even the police nor fire prevention departments have this concern.

We must not take things for granted. We must be vigilant. Rigid personal cleanliness specially when in close contact with clients. We need more counselling and info RE: SARS.

You can see the nurses who are dedicated and not nursing to "just make money." I respected a few of the nurses more than I used to.

Each and every day I asked myself why am I exposing myself and my family to this. If I wasn't so financially in debt I think I would have left.

If it happens again I will leave. I had to wear full gear daily for 6 months for my full 12-hour shifts. Too hard on my family. It is not worth potentially making my family sick or kill them.

I'm embittered that we worked so hard in emergency to protect everyone and were not appreciated by the rest of the staff in the hospital and in fact emergency was treated like a leper colony.

It brought out more sense of belongingness and great pride for the nursing profession for toughing out such exhaustive outbreak.

Nurses as front line workers are in more danger of being exposed to an illness or disease, but are not appreciated by the healthcare systems, or the media/public, as so. We expose our quality of health when at work, but it goes unrecognized.

Emphasizes the crisis in healthcare in this province. Nurses overworked, underpaid. Hospitals understaffed. The low pay, job stress, and heavy workload aren't worth dying for.

I am so proud of myself and my colleagues who worked together and bravely faced our fears and still cared for our patients in spite of terrible discomfort – but I'm afraid of the next outbreak of whatever – can the system not break down?

I still love caring for patients. However I find administration and the public don't seem as concerned. E.g. administration has all its policies in place to protect itself but when it comes to staff we're on our own. Managers on call unable to answer questions.

Some people displayed selfishness that made me wonder why they are in the profession.

Don't trust the hospital, patient or system to protect me. The masks we were forced to wear failed the "mask fit test." Now 5 months later now I am to be fitted and tested in another way by Occupational Health.

It amazes me how inconsistent the occupational health is in different places [–] there was no standard procedure.

The poor morale and increasing anxiety/frustration is enough to make all of us find new careers. We never saw our CEO during the crisis, our director was not very helpful or supportive; but administration has done nothing more than pay lip service to show their appreciation.

Paradoxically, it has strengthened my resolve to stay in the profession.

Once again it was obvious how the system could not have succeeded without nurses, yet we have fallen back into the same scenario post SARS. We do work in a profession that can be life threatening but we are certainly not compensated for it.

I still love nursing and knowing what I know now I would still choose to be an RN but now there is a sense of danger that comes with being in this profession that wasn't there before.

Do not wish to care for these patients. Training took place after SARS outbreak – way after outbreak occurred. Feel government and management dropped the ball too early – hence SARS II outbreak.

My attitude has become more negative. I feel the government views nurses as expendable. The "new normal" is acceptable only to those who don't have to work in it. Nurses are generous giving people, put I don't think we should have to "give" with our very lives.

I always knew this was coming – I thought perhaps we were better prepared. My fear is it will happen again. Are we really ever safe?

Q2.5 Did your facility have adequate isolation/negative pressure units throughout the SARS outbreak? If not, at what stage did they have adequate isolation/negative pressure units and do they still have them?

I don't think it was always a question of adequate isolation/negative pressure rooms, but a break in compliance. People got tired of goggles they couldn't see with or masks that bothered them and with no one supervising became non-compliant.

Never. Very poorly organized!! Infection Control Manager was terrified and did not know what to do.

There were NO windows in the doors of the rooms until SARS2 (only for ICU patients). How can you adequately care for someone if you can't see them?

Q3.5 If you were not provided PPE at the beginning of the SARS outbreak, were you required to wear PPE at any subsequent time? If so, when?

Basically the masks were in poor supply. You had no choice. You had to cope with what was available. You had no choice. They were too big, very claustrophobic, itchy, irritating to the skin and very difficult to breathe in for any period of time.

It was the respirologist that expressed concern near the beginning of the outbreak that we were not adequately protected. Hospital provided the things when that MD made his suggestions. Did not happen as quickly when nurses voiced concerns.

Q3.8 Were you given clear direction at all stages of the SARS outbreak as to what PPE you should be wearing and in what circumstances? If so, by whom?

They kept changing the protocols. Everyone was going day to day because no one knew for sure.

Directions changed every shift. You really didn't know what could be happening.

Yes, but it was very confusing. Communication was not consistent throughout the hospital ie each unit seemed to be doing thing[s] different.

Nursing managers were very considerate in keeping us informed as to what to wear etc. As well the unit educator and the screening personnel.

Our infection control team was phenomenal in their efforts to ensure that we were protected and kept up to date on all changes and directions.

Not in the beginning and after 1st outbreak we were told to remove our PPE – even masks. Nurses were very confused. Those who kept our masks on were told by our medical director to take them off, they were no longer needed even though we had many patients in ER at the time with respiratory problems.

Yes but it was a constant changing learning as we went. Old principles that have for some reason been ignored over the years as being old and unnecessary.

The information was often slow to trickle down to our unit even though well designated the SARS area. Often the info took days to reach us via memo from the infection control department.

Q3.10 Explain any concerns you may have had with the directions and/or the adequacy of the protection you were given.

Goggles were too big, masks were very heavy. I found it hard to breathe at times, increasing headaches, skin irritations.

I had no concerns. I always felt protected at work and felt we were kept up to date even though the direction from the MOH changed sometimes daily, even hourly.

The hospital seemed to be deciding for the staff how much protection we needed.

There were long delays between when infection control and upper management held meetings about protection changes and when that information was passed on to staff caring.

Eye protection kept changing. No one seemed to know for sure. They handed out one kind and then said we had to share, then handed out another kind and said discard the first pair. A lot of wastage.

Most of my concerns arose because this was new to all of us. There had to be uncertainties and I preferred to be told "we just don't know" than receiving information or direction that proved inadequate. Was it airborne or not?

Masks were horrible and even after being test fitted, manager had trouble getting the proper ones for each individual. Memo book was overwhelming and no one had time to read it all.

The magnitude and potential exposures were not initially recognized or known. This was understandable given the lack of knowledge. I do believe the hospital did do things quickly when risks were identified.

Nobody really knew what they were doing. We were to believe whatever they told us with respect to what protected us. They could only base the information on what they were learning on a daily basis. The 2nd SARS outbreak proved it was all a guessing game.

Q3.11 Did you experience any confusion around which masks provided the necessary protection? If so, please explain.

Certain masks were causing headaches and breathing difficulties, and still other tolerable masks were not readily available.

Masks that irritated my eyes. I lost a few sets of contact lenses because of the fibres in the masks. Manager did little to resolve the problem.

We were [guinea] pigs. Our manager was our hero. She battled for us on a daily basis.

Q3.13 Do you know/did you witness anyone who raised concerns about PPE? If so, when; with whom and what was the response?

Doctors did not always wear their masks and were spoken to by nurses that everyone had to follow the rules re: PPE.

Many of our staff did … and we were belittled and shouted at.

There was questioning as to why everyone wasn't complying. We were told to do what we felt we should do.

Everyone hated them but we didn't get any response other than: this is the new normal.

Yes, many nurses raised concerns about PPE. However, I am one of the few nurses who believes that we were given the best information and equipment that was available at the time even though it changed from day to day as our understanding of this new virus became updated.
Basically all faces wore the same mask. Incorrectly sometimes.

Masks and gowns became very scarce and often we would have to recycle used ones.

People began to hoard masks when they became available and weren't considerate to others.

Q3.15 Were you ever told to reuse a mask (e.g., were you advised to save your mask in a baggy for use on another occasion)?

That made me so angry. The first two days we were asked to put masks in [a] baggy and bring them in a bag next day. I did not do this – I didn't want to carry that thing home to my family.

We wore them into the cafeteria but everyone did something different. Some hung them around neck, others put them on hands, tray or table, dirty side down.

I refused. I felt this practice was unsafe.

Q3.16 Were you ever told that the cost of masks and/or other PPE was an issue? If so, by whom?

They complained about the cost of the masks (maintenance man) in charge of getting them. He told us to wear them till they were wet with perspiration.

Certain masks were put away only to be used by staff with breathing issues because they were too expensive for all SARS staff to use.

Some masks were more expensive than others and therefore deterred from being used.

I'm not sure who actually said it but we just got word in the OR that the duck bill mask[s] for allergic people were too expensive, that's why we were not getting the supply in the OR.

Management would send out weekly email indicating cost of SARS outbreak on the facility.

We were told gowns were expensive to use and not to use even if we wanted to.

Save the budget for the hospital was said. A much bigger priority than nurses' lives and our families' lives.

I was told by an infection control nurse that I was using too much hand gel and gloves and that I was costing them too much money.

We were told that we had to cut back because there were not enough supplies because all supplies had gone to the war effort USA and Iraq.

Q3.17 Were concerns expressed about the perception created amongst the public from staff wearing masks? If so, please explain.

We are not allowed to wear N95 in cafeteria. They said this would scare the customers.

Towards the end of the first outbreak hospital asking for staff to take masks off, wanted the public to think things are back to normal.

Difficult to deal with small children – they are scared of masks.

We were not allowed to exit the hospital with masks on.

Patient confusion. Poor communication as sounds muffled. Poor eye contact and increased anxiety. Misunderstand and verbal abuse from family.

Public was alarmed but accepted precaution. Public initially fairly informed about the spread and how transmitted.

General public were concerned if we were wearing masks that we must have [had] contact with SARS.

One elderly lady I knew in hospital was quite scared by all the "masked" people. They looked like ghosts to her.

Our patients are elderly and some confused/scared by masks. Couldn't hear us or understand as couldn't see expressions on our faces.

When in quarantine and forced to work I had to wear mask from my car, walk two blocks from parking to my hospital[,] was harassed on the stand[,] had a pop can thrown at me, taunted by teens pointing and screaming SARS at me on the street. Residents complained to superintendent when I was leaving for work.

It was scary and felt like a huge barrier to care.

Our manager wanted the masks off quickly after SARS I, and we were criticized if we wore one.

We felt like we were lepers, outcasts, especially when we had to still go to work with no time off.

The public was very frightened about SARS and seeing staff wearing protective gear made them more frightened.

We all felt ostracized already [–] that just contributed to it.

Our hospital places more emphasis on perceived public approval at expense of safety of patient, public and staff.

I was concerned that some staff wore their masks on the bus on the way home – the public should have been concerned about that!

Originally we were not allowed to wear masks in hallway – told that we may be creating a "panic."

When we went on quarantine after a night shift … we were told to wear our mask in the car until we got home and my neighbours saw me and thought I had SARS.

Patients could not hear everything especially when they were hard of hearing or if they read lips.

The public treated anyone wearing a mask as a leper and would avoid us.

Q3.23 Did you ever experience any side/health effects from the use of PPE? If so, give the details.

Our unit is super busy. No such thing as a 5 minute break every hour! We got chest tightness with difficulty breathing, dizzy, sweating, raw hands from constant gloves, fogged glasses. Awful!

Our floor has inadequate ventilation (old wing) so the PPE made me very hot and increased my headaches and several times I came close to fainting. Red rash and excoriation from masks.

Confusion, headaches, skin peeling, cracks from washing – redness from solution, tired.

I found wearing the PPE for 12 hours exhausting and I found by the end of 8 hours your level of awareness and response decreased greatly.

It was a horrible experience, I could hardly see due to fogging and I was entirely soaked, my uniform under the Stryker suit was wet, my hair was wet and my hands were wrinkled like after a long bath. I could not leave the patient, since she was too unstable. There was nobody to relieve me.

Had panic attack when I could not breathe or see through my extremely foggy goggles and face shield.

My throat was constantly irritated wearing the N95 mask, I always had the sensation of a hair tickling my nose or little bugs crawling around my mouth and nose. Also fatigue from high $C0_2$ levels.

Fatigue, moodiness, acne! I was pregnant and had a miscarriage. Could it be related? We will never know. Two other females in my area had miscarriages.

My doctor told me I had "mask-induced asthma." I have no history of asthma but needed to be on steroid puffer while wearing the masks. That is why I tried to switch to latex-free.

I'm [a] claustrophobic person, so that I felt SOB [short of breath] all the time with mask (face shield). Also my face broke out rashes from the irritation of the mask. Dermatologist consult was not available until the whole outbreak was over.

A headache every night. For weeks, I felt very lightheaded at work and would become confused "hazy." I required a lot more sleep. My skin totally broke out with acne.

I had terrible cankers/mouth ulcers after the first month of wearing the masks continually. Also, I have had terrible "bouts" with migraine headaches, which are new for me. Both of these issues have been treated by my family MD.

We checked our O_2 saturation levels after having worn our N95 for over an hour. Our saturation levels were less than 94%, yet when the masks were off, we had saturation levels greater than 97-98%. That's significant and helped explain our exhaustion for days after.

3.34 Did you raise any concerns with management regarding the side/health effects of using PPE? If so, what response did you receive?

We were told we would have to get used to it or consider working elsewhere.

Was given opportunity to try masks less irritating and they were made available for my use.

They apologized for the ill-fitting masks and employee health did manage to find more comfortable ones.

It was discussed. Nothing could be done except trying different masks.

We mentioned our decreased oxygen levels with masks on. We were encouraged to take frequent breaks in order to remove masks.

Not much was done because PPE were a necessity and there were not alternatives at that time.

One of the doctors suggested we should have an oxygen bar to go to on breaks – management just laughed!

Response: you've got to be kidding! We're nurses we're expected to do our jobs. We were actually told that if we couldn't deal with the conditions and dangers involved in nursing we should not be in the profession.

I was treated rudely and made to feel that it might not have been … mask related. I mean we could say 100% for sure but it was the only thing I had on my face and since it have not had any problems. Started wearing "duck bill mask."

Nothing could be done – had to wear a mask. It was something I just lived with.

Q3.25 Did you need/receive any accommodation regarding the use of PPE? If so, provide the details and any problems you experienced.

Management provided good supply of bottled water to make us more comfortable and [kept] us updated.

We were told about the five-minute break per hour "take off mask," but workload didn't allow it most of time.

Were given increased breaks away from the patient care area to remove masks and equipment.

I was assigned to a SARS patient without PPE instruction; I had to ask someone for instruction prior to going in room.

We were encouraged to take more breaks although staff was not available to do so, we were provided bottled water for our breaks.

Q3.26 Prior to the SARS outbreak, had you ever been formally fit tested and/or trained and instructed in the care, use and limitations of PPE?

Q3.27 After the SARS outbreak were you fit tested and/or trained and instructed in the care, use and limitations of PPE? If so when (i.e., first outbreak, second outbreak, or actual date if known)?

This was normal isolation procedure in the 1970's. Things have become very different with less precaution in recent years.

We were fitted for N95 masks, but not until after the second outbreak was almost over.

Not fit tested. Took self-study course on isolation precautions and trained years ago on isolation.

In the USA but not here in Toronto.

After 2nd outbreak, but fitting was up to individual to have it done in a testing area.

I had my mask fitting on July 31/03. The mask I wore throughout the SARS was the wrong type.

My fit test was after the 2nd outbreak and after I was quarantined for exposure to SARS in June. Only was fit tested, no instructions on care/use or limitations.

It seemed that 1st group of people fit-tested were management, not the front-line bedside nurses.

Q3.31 Were you ever advised of the importance of wearing properly fitted masks? If so, when?

I was not personally told this but ignorance is bliss. Like I said, we wore masks for a weekend only to be tested Monday morn to fail.

From the start we were advised of importance. However no one was sure if they were fitting properly.

Q3.32 Did you have any discussions with management regarding fit testing? If so, what are the details?

I felt that it was too late! I guess we may be adequately protected for the next outbreak.

It was very discouraging to have mask fitting sessions after all was over. How unsafe were we from the beginning[,] did they care or didn't they know the importance.

I know SARS has been a huge learning experience, but there should have been previous fit-testing, and even now it's the end of August, why have I not been fit-tested yet? Nurses should be fit-tested first.

She was upset because if she gets me a special mask "my budget goes through the roof."

Many could not get a fit test done because the times were fully booked.

I was very upset that fit testing started many weeks after we had been potentially exposed. The masks I had been wearing prior to testing all failed.

It was difficult for emergency nurses to leave to get tested for 1-2 hours. Extra staff wasn't available to cover. Eventually, some fit testing had to be done in the ER to accommodate (during 2nd outbreak).

Why were we not fit tested prior to SARS?

Q3.33 Do you have any knowledge of and/or did you witness anyone having any discussions with management regarding fit testing? If so, what are the details?

When one nurse asked why she was not being sent home until proper masks were here, she was told: "Can't afford to send you home! Too many people don't pass the fit test."

Staff that did not pass were 1st told not to report for duty, but then due to staff shortages did return.

One staff was sent to crisis intervention after she failed the fit test several times and became upset and concerned for her safety – inappropriate!

Every effort was made to protect our workers, as far as I could discern.

There were questions being asked by staff all [the] time and above answers were given. Above was written: We can't afford it at the present, we are not on the list yet, we are at the bottom of the list, there are not enough fitters in the Toronto area.

Q4.2 Were you ever discouraged from treating SARS as a health and safety issue? If so, by whom?

When staff failed fit test at peak of 2nd outbreak still expected to work with the potential for exposure.

One of our staff physicians said "we nurses were crazy to look after these patients."

Q4.3 Did you ever feel that your health and safety were compromised at any time during the SARS outbreak? Please explain.

Lack of effective and timely communication along with leadership led to confusion and improper infection control practices thus exposing staff to potential dangers.

The workload – not able take breaks – leads to exhaustion and carelessness regarding use of PPE.

There was no information about the disease or its transmission. It was not treated seriously at the beginning.

Who do you trust?

The hospital is dirty. I was afraid to touch everywhere.

An anesthetist provided an epidural for a labour patient during the outbreak without proper PPE in place and then informed staff she [had] just intubated a suspected SARS patient.

The entire time other healthcare professionals were constantly becoming ill and they were wearing same protective equipment?? Who was going to be next???

It was my opinion that the unit on which I worked "let down our guard" too early. We stopped wearing masks prematurely.

I was torn between staying and quitting because my husband was scared. I wasn't eating very well, worried I might develop low immune response and get sick.

Who wouldn't be scared when you see and hear how many healthcare workers got infected.

Physicians who did not comply with precautions despite being reminded to do so caused increased safety concerns.

Felt threatened at all times.

We had a constant running battle in terms of visitors. For a period of time they were not allowed. When they came we felt they should still have been kept out. SARS screening and PPE for them was not good enough. Visitors routinely wore PPE wrongly. Sometimes people would sneak in. They often lied about contacts.

Staff seemed to be getting sick no matter what precautions we were taking.

Isolation doors being left open! Discarded PPE on the floor! Patients with respiratory symptoms almost being sent to a retirement home until staff questioned the decision – patient was later found to have SARS!

I was exposed[,] visitors were sneaking in and the instructions as to what is safe [were] always changing.

We were told too many untruths by our medical support team.

No one seemed to really understand how the transmission occurred, therefore you felt vulnerable even wearing PPE.

When doctors removed their mask after they have been in emergency or other areas and they came to our unit.

Constantly. Many staff did not wear their masks on units so on phones etc. Managers walking all over the hospital without PPE.

Q4.8 What hazards/concerns arising from SARS, if any, did you bring to the attention of management and/or the Joint Health and Safety Committee (JHSC)? What was the response?

Some people not following procedure – management spoke to them.

There was reassurance but I detected they were or felt as helpless as I did.

Visitors not following instructions to stay away or limit their stay during visit. Some are very persistent to stay.

During the outbreaks, I was concerned of the limitless entry of visitors. Many hospitals up to this day do not let visitors in. Visitors must wait until patient is returned to their respective units.

On a couple of occasions, I informed my patient care manager of patients/visiting without being screened at the entrance or phone screened. My patient care manager immediately took action and changes/recommendations were implemented.

We were concerned about the stress of the whole situation. Fear of contacting SARS. Response was nothing really 'til the end we were given one day of relief.

At the beginning of the first outbreak when people who knew we were nurses or our children's mothers were nurses – what we should do i.e. sending our children to school – not socializing or hugging anyone in case we were passing on SARS to them.

Physical exhaustion as well as mental – nothing done about it.

Public wearing the visitors tags were collected in a plastic bag, and handed out again – no sterilization, very receptive.

Paper towel dispensers are not proper for good infection control. Nothing yet has changed.

I constantly suggested that a few responsible managers should run the show so we know who was in charge but there were too many managers – no one truly responsible or accountable. Response to this … not appreciated.

Q4.9 Did the JHSC meet more frequently during the SARS outbreak? Did they communicate with you?

Sometimes little communication back to the staff nurses. We often felt like we were in the dark with most recent info.

It was like pulling teeth with a wrench!!

Q6.1 Were you quarantined (home or working quarantine)? If so, for how long and how often?

What the hell is working quarantine? You should either be quarantine[d] or not. I did not agree with this approach. How do you get to work and back without jeopardizing the public.

It was a joke! I had unprotected exposure which was not observed until 9 days after. I was then placed on home quarantine for 1 day. Then on day 14 I was called by public health saying my quarantine should have been 14 days instead of 1.

Working quarantine had to be the most stupid thing ever. Either you are quarantined or not. Too much opportunity to compromise the quarantine technique.

Q7.1 Were you regularly informed of the MOHLTC directives, including updates? If so, how?

Our administration was superb in doing this on a daily basis, updates came regularly.

Hospital email not easily accessible for most. I would check before going to work on my home computer because there is no time when you're at work.

I believe information was withheld from time to time in the interest of panic.

Q7.2 Were the directives explained by your employer or anyone else? Please explain.

They were very good. I read all of them. I felt the communication was really important. It looked like the administration was being "on top of things."

Staff were updated continually – at one point with daily staff meeting by unit director.

Regular open meetings were held weekly.

The employer/infection control explained directives. We never directly saw any directives – our unit manager also had talks with us daily at one point.

Occasionally – however the explanations were not consistent.

The email info was daily and we were to read and ask questions if we had some.

They were very good. I read all of them. I felt the communication was really important. It looked like the Admin was being "on top of things."

Sometimes. Different resources had different answers.

To best of employees' ability. Often employer was unsure exactly what was being directed.

Ministry of Health directives were posted where everybody can read regularly.

It was passed to management to pass to staff nurse. Often the info was skimpy and ambiguous by the time it reached the next shift, or the shift after that. Usually info was passed verbally.

We were regularly informed, but what we were told seemed to change, literally, by the hour so I don't know if they were updates or incompetent communications.

Q7.4 If you were advised of/read the directives, did you find them confusing? Please explain.

Directives were confusing, cumbersome, changed daily if not more frequently. There was no way anyone could be certain they were doing the right thing.

I believe the entire situation was confusing and it didn't matter what the directives said. Everyone was confused and nobody knew anything for sure.

Too long – more concise would have been better.

At times contradictory. It seemed filtered and possibly to suit CEO/management not staff.

There was no evidence base to support many of the measures. It is difficult to make intelligent people do things when you can't explain why.

They changed so frequently, it was hard to stay current, especially when being off work for a few days.

Q7.6 To the best of your knowledge, did your facility follow the directives? If not, provide details.

They seemed to be scared to make any decisions, concerned to rock the boat – sent unit the directives via computer but did not enforce them all.

Many MDs were slack in their infection control practices.

Many service staff working in stores etc. not wearing PPE justifying it because they work in remote areas of hospital.

After the 2nd outbreak we were treated a little humanly, otherwise to administrators we nurses never exist.

Unsafe conditions, dangerous to patients. Could not get help quickly when patient crashes. Baby monitors infection for isolation room. Could not see monitor and gear on.

Visitors were the largest issue – the hospital totally abrogated responsibility.

I didn't think they did. There was an air of arrogance, defensiveness by senior management.

Q7.7 How was the March 29, 2003, directive requiring PPE to be worn by "all staff when in any part of the facility" applied in your facility? Were you and staff members in your unit provided with PPE consistent with the latest MOHLTC directive?

MDs came thru wrong entrance to hospital and did not do SARS screening. We saw them enter through Emergency. We reported to our nurse manager.
We never had unprotected exposure to any SARS point in our hospital. We were met at the door with the appropriate PPE for the area we worked in, along with a handout and signage.

MD's refused to co-operate[,] only wore PPE if it was demanded by the nurse. On one occasion, I refused to assist MD because of safety for the patient and myself.

Q7.8 How was the May 31, 2003, directive requiring full SARS precautions (PPE) to be worn by facility staff "in all patient care areas" applied in your facility? Were you and staff members in your unit provided with PPE consistent with the latest MOHLTC directives?

This was not fully applied. That day was the only day I was told I did not need a mask. I had no mask on and guess what – I was exposed to a suspect SARS patient.

I felt like that we were "closing the barn door after the fire was started."

It was very strict. Even when the government said the outbreak was over our hospital insisted we continue to use protective gear. I know of a few that didn't and it turned out disastrous.

It was very hard to follow all directives but the fear of SARS drove us all to compliance.

Q7.9 Please provide any further comment about the directives.

The directives were hopelessly general and open to interpretation.

I just want to forget about that period.

On the whole it was all dealt as well as could be expected on such short notice. Everyone tried their best. Well done.

I felt that the people at the POC were not really aware of what was involved in hospital work and patient care, so the impact of directives was not always thought out in advance.

As nurses we need to be allowed to use some clinical judgment on when/where to wear PPE.
It is okay to have directives. Please ask the front line workers for inputs. Do not treat us like a cattle ranch and one kind of masks does not fit all. The MOHLC should try wearing an uncomfortable mask for 12 hours and then come and talk to me and tell me what to do. Treat us with RESPECT.

It was much too late, many of our staff were already sick with SARS by then.

Will it ever be over?

It seemed I learned more from TV or friends. No one ever seemed to know what the right thing to do was. Complete disorganization and utter lack of communication. Pitiful.

People are still wearing their PPE at times when caring for patients. I think they are still scared of the unknown.

They made a concerted effort. It was a learning experience for everyone. It wasn't perfect at the time but we learned from it and would be better now I think.

Nurses were compliant, physicians were vague and occasionally mocked our ideas, blaming ONA for being too fussy.

I was afraid of dying.

Q8.1 Are you aware of any situations where patients were exhibiting SARS symptoms and were not appropriately dealt with (e.g. not placed in adequate isolation, not reported to Public Health)? If so, please provide details.

Patients were not always screened properly or not at all. Placed in wardrooms only to find out two days later that they have possible symptoms.

Public health was impossible to contact. Very slow response.

I simply did as I was directed by the charge nurse; I never had time to look into the directives on my own. Patient care takes up all my time and energy.

Nobody listens to the nurses!

Q8.3 Are you aware of any circumstances where you or other nurses/health care workers were not listened to when they reported possible SARS symptoms in patients? Please provide details.

People at times felt we overreacted.

The MD's opinions were more relevant to managers than the RN's who worked daily at bedside.

The nurses were spoken to very badly and told they were overreacting and dismissed their concerns.

We really had to fight to get to be heard. Symptoms were not taken seriously at times.

Q8.4 How could the spread of SARS and the risk that it posed to workers have been better dealt with within your faciiity?

Hand washing was slack and workers weren't properly trained.

Infection control measures could have been in place before the outbreak. We deal with communicable diseases all year.

Make the doctors accountable for ignoring the screening protocols.

Listen to the nurses.

All persons exhibiting symptoms should have been suspected until completely ruled out.

If we hadn't let our guard down 1-2 weeks early, the second outbreak would not have occurred or been as severe.

Listen to nurses!!! We are the primary care giver. ID team was not listening.

Protocols were changing every 15 minutes by the same person. Doctors didn't follow the protocols but the nurses did.

Never should have sacrificed healthcare safety for ministry of tourism. Nurses said that as long as we practiced safe measures we were safe. Once we relax – boom 2nd outbreak.

I think everyone was doing their best but because of the "unknowns" it was very difficult.

More communication, I am aware of the confusion, but I should not get my updates by the media; which is based on their interest.

Many of my colleagues who became "SARS" sick contracted the illness by going to another unit to help out. So the issue about staffing shortage is a contributing factor. Also at the ER level better infection control practices. Perhaps ER should have separate rooms for patients with fever.

They could have listened to the nurses sooner. We had valid concerns that fell on deaf ears.

I don't know that it could have. After all this was new and unexpected. We learned from this and now would be better prepared for another situation like it.

Masks should never have been discontinued after the first outbreak.

The hospitals should have been locked down for all visitations and full protection should have been in place until the last patient went home or died.

It was kept a secret from nurses far too long and we should [have] been more aware immediately in regards to what kind of virus we were nursing with.

Q9.1 Did you witness any failure to comply with Ministry/facility directives during the SARS outbreak by any of the following persons? Physicians, screeners, visitors, patients, non-professional, professional staff?

Some patients and visitors became very abusive and angry and refused to comply.

Visitors were very non-compliant with masks and did not listen even with repeated reminders.

Visitors didn't seem to understand the seriousness of the risk. Physicians had to be informed/asked to please comply.

Some physicians were angry they had to line up with the rest of the staff to go through the screening process during the 1st SARS and didn't like to have their temperature taken and have to wash their hands.

Some physicians refused to wait in screening lines – bypassed screeners and security people.

Breaches everywhere: human error, forgetfulness, laziness, letting up guard, lack of enforcement.

I witnessed an emergency physician walk past the screeners handing out protection. The security guard told him he was required to wear N95 gloves, gown. He said "I know I'm the emergency on call" and kept walking. At this time our emergency was a SARS assessment clinic for the region.

Q10.2 If your facility was able to prevent the spread of SARS to health care workers, please share with us any details about health and safety/infection control measures and/or procedures etc. that you are aware of that protected the health and safety of your members during the SARS outbreak.

I'm sure if it returns we will hopefully be more aware and cautious.

We were just damn lucky!!

Q10.3 What sources did you seek for the latest SARS information?

Watching the news, the newspaper. They were more up to date than the nurses working with the patients.

We did regular updates on events posted on a "SARS" bulletin board; read different newspapers, website, listened to interviews with doctors, researchers on SARS.

I called our hospital's SARS hotline, read memos, listened to the news etc.

The evening news on TV and newspapers and family. I learned more from the above sources than I did from my employer.

I called another community health centre almost daily. I went on websites. I attended some of the daily POC press conferences.

Most important aspect especially with this kind of outbreak; to always let all the staff know the situation … honestly … support them in whichever way they can. Improvement and more latest techniques re: Infection Control.

Infection Control – although early on I said to our person "I hear it's a chronic virus" and she said – don't listen to the media. The media was an important source of information to us.

I disagree that hospital administrators should have the power to police directives set by the MOH and that MOH should ensure that the directives are enforced.

Q10.4 Any additional comments (is there anything else that you would like to tell us or that you think we need to know)?

Be more involved, never assume others know, grapevine unreliable. Don't just complain to other staff, ask management and go to the person and find out for yourself.

Healthcare is definitely not prepared for this type of emergency. Policies and procedures need to be in place. Listen to the nurses!!! They are the front line.

I believe we let guard down too soon after initial outbreak. Everything seemed to clam up after travel advisory. I felt biggest sense of distrust after this and began to look out for myself more so then because less info was forthcoming then.

Nurses worked in hot disgusting circumstances [with] inconsistent info and were poorly protected. It was like we were disposable.

I was proud of my facility; I felt they tried hard to protect staff and community. Everyone went out of their way, management worked odd hours side by side with other hospital employees to do whatever was necessary. Some even brought us coffee.

I think the outbreak was handled as best as the healthcare system could. We are short staffed and stressed on the job regularly. The Ontario government needs to make healthcare a priority because there will be something else and a lot of the older nurses will just leave.

In our past experience we have never dealt with anything like this. I think overall we all did the best we could with what we knew. Now we know better. Needs to be set up permanently so that we never get caught off guard again. It will happen because now the spotlight is off.

I know personally that as a happy contented worker in ER my whole outlook changed. The face of nursing itself changed. When you only see eyes, can no longer touch with bare hands to assess skin temperature[,] tone etc.

This situation was very disruptive for clients with mental health problems. I wonder if anything could have been done to make this situation easier for them?

We were treated so poorly considering what we had to go through. We were not treated with respect. We were kept in the dark about everything. It was very upsetting.

SARS was totally mismanaged.

If SARS occurs again I'm sure you will see a big retirement [of] RNs in Ontario. Physically[,] emotionally we were exhausted. Not enough staff, no refreshments, poor communication, not enough isolation equipment.

What happens the next time?

Very important to listen to nurses' concerns. Nurses often not taken seriously or respected. Morale on our unit is at an all time low.

Doesn't surprise me that this has happened. It will happen again. I know how to protect myself at work re: unusual precautions – but SARS has put a new perspective on nursing for me.

A lot of nurses were afraid. Especially the ones with children. You could see that they wanted to cry or run off the unit when they found out they were caring for the SARS patients that day.

I can't believe how nurses were so left out and they were the ones doing the actual screening and giving care.

Nursing has now become very hazardous profession and ONA has an uphill battle ahead in negotiating a contract which will attract nurses to remain in the profession or to encourage anyone to enter the profession. We are headed for disaster. The exodus has started.

For the 1st time I was hiding the fact that I was a RN to avoid people shunning me. I felt very isolated. I resented people saying it's my job to take the risks of SARS.

Don't ever force us to do SARS again please! Have it as a voluntary job for staff who want to get paid more. We didn't even get paid more.

It will happen again and we better be prepared. We will see an exodus of nurses unless the pay reflects the risk. The nursing shortage is already critical and will now be worse.

I felt very isolated and not informed quickly enough. Feel the Hospital is looking after itself first, staff second.

I feel that we took our guards down too soon. I expected the precautions to continue until Sept. with the first outbreak.

Nursing will never been the same anywhere. We are now careful and more aware and mask will also be a part of us.

Physicians need to be more accountable regarding precautions. They are the worst offenders.

Medical institutions were not ready and we became one big experiment to see what practices would work.

Management should have to communicate with staff. Staff was kept without proper information.

It was hard but we did it.

Our manager always wanted us to remove our masks after SARS I, for public relations.

I realistically think that you will see significant numbers of RN's leaving the profession within the next 5 years. Many feel this problem is perhaps just the 1st of many to come, and while most of us have been "lucky" this time – who knows about the next one.

SARS has changed everything. I no longer feel safe at work. Friends have been lost. My family suffered much stress and anxiety. I feel there will be a large exit from nursing if SARS happens again.

They (hospitals) should stop worrying so much about business, if everyone is sick there won't be any business and no one to care for them.

This was a terrible period to work in and has left me physically and emotionally exhausted. I still have anxiety thinking about it and how unrecognized the role health professionals played in SARS 1 and 2. I cannot even speak about it.

I feel that the disorganization, lack of leadership and education greatly put our unit at risk and it is purely by luck that we had no healthcare workers contract SARS.

SARS has changed the face of healthcare especially for me as a nurse. The joy of being a nurse is replaced by fear.

All I want is for hospital to admit they made a huge mistake in dealing with this. They need to do something for the families whose members died as a result.

Cleanliness in our hospital is way down on list of priorities. The priority in our hospital is "public relations." Far removed from safety and what would be in the best interest of client and staff.

It is unforgivable that management and our infection control specialist doctors were not held accountable for their action.

We can learn a lot from the mistakes made this time. I hope we do.

I feel very angry and betrayed becoming so ill by just carrying out my job; I don't know if I will ever be able to feel the same way about the hospital. I have worked for 26 years.

How can a mask that fits a 300-pound construction worker fit a 95-pound healthcare worker?? What were they thinking??

I feel the press did more harm than good. Our patients coming to the SARS Clinic for assessment were extremely upset with reporters and camera crews photographing them. It was a "Privacy Issue" as well as an issue of "Respect."

Our cleaning staff is overwhelmed, I don't feel that they could follow infection protocols when [they] are overwhelmed (this I feel is the source of spreading germs).

Nurses are mercies of God. Do not let them run away! Provide money, support, love or you'll have no nurses left!

CHAPTER SEVEN: Aftermath

Airport Screening

Airport screening was a controversial matter that, in the end, turned out to contribute little or nothing to the fight against SARS. When SARS was over, it was clear that airport screening was ineffective and that the most effective screening point was the first portal to the health system, whether it be advice from a family doctor or a trip to a hospital emergency room.

The screening measures were the subject of great bickering between the Ontario and federal governments, which regrettably showed the tendency of governments sometimes to fight rather than fix. The lesson learned is that in crisis governments must forgo political sniping and join together in the job of protecting the public.

Health Minister Tony Clement at one point wrote federal Health Minister Anne McLellan to complain that screening measures at Pearson International Airport in Toronto were not vigorous enough to prevent SARS from entering Ontario.[846] Two and a half weeks later, the WHO issued a travel advisory against Toronto, and McLellan was accused in the House of Commons and elsewhere of bringing on the advisory by ignoring requests for better screening of people entering the country.

Medical professionals questioned the effectiveness of the airport screening. For example, Ontario's then Commisioner of Public Safety and Security, Dr. James (Jim) Young, told the CBC that the chances of the screening process catching someone with the disease were slim:

> The airport isn't picking the cases up. People come in, and then they get sick and they go to hospital. We ask them questions if they're sick and we pick them up there.[847]

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[846] Letter from the Honourable T. Clement, Minister of Health Ontario, to the Honourable A. Anne McLellan, Minister of Health Canada, April 4, 2003.

[847] "Airport screening ineffective against SARS," CBC news online, www.cbc.ca, June 11, 2003.

Dr. Andrew Simor, a microbiologist at Sunnybrook, said the airport screening measures were put in place largely to try to satisfy the World Health Organization (WHO):

> The reality is I don't think it was really warranted and I think the costs used for airport screening could well have been spent on other sorts of control measures.[848]

On April 3, 2003, a WHO official described the Pearson Airport screening as an example of best practices.

SARS was not detected by any measure utilized by Health Canada at Canadian airports, as described in the Naylor Report:

> As of August 27, 2003, an estimated 6.5 million screening transactions occurred at Canadian airports … None had SARS … The pilot thermal scanner project included most inbound and outbound international passengers at Toronto's airport … and again none were found to have SARS.[849]

The federal government instituted airport screening on March 18 in hopes of decreasing the risks of travellers importing SARS from Southeast Asia. The initiative began with Health Alert Notices (HANs): posters directing arriving passengers to pick up information on signs and symptoms of SARS and to see a physician if the symptoms developed. This information was printed on 8" by 11" yellow cards and included key telephone numbers.

Vancouver and Toronto international airports received the yellow HANs first, then the initiative was expanded to 12 other airports that received international travellers who might have been in the Far East. Also included were 18 land border crossings to the United States.

On April 3, the federal government distributed "cherry cards" to passengers departing Toronto's Pearson Airport on international flights. This was expanded on April 7 to include Toronto Island Airport and the train stations:

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[848] "SARS threat persists, screening wanes," *Toronto Star*, November 20, 2003.

[849] Naylor Report, p. 205.

> With the advent of SARS transmission in Toronto, Health Canada implemented similar HANs in a different color (cherry) to mitigate the risk of exporting SARS cases. The cherry-colored HANs were distributed to persons departing for international destinations from Toronto's Pearson International Airport. Passengers with symptoms or signs of SARS were asked to self-defer their travel. In these instances, Health Canada requested airlines to waive their policies on non-refundable tickets, and while many did so, the refund and rescheduling policies and conditions were not uniform.[850]

Six days later, in-flight distribution of yellow cards and contact forms began on nine airlines with flights from Asia. The program underwent a series of expansions and revisions, the most significant being the implementation of thermal screening at airports. On May 23, six thermal scanners were set up in Toronto's Pearson Airport for all incoming and outgoing international travellers. This followed a pilot study started May 8:

> In parallel to these measures, Health Canada initiated a pilot study on May 8, 2003, on the use of infrared thermal scanning machines to detect temperatures >38°C in selected international arriving and departing passengers at Vancouver's International and Toronto's Pearson International airports. Thermal scanning complemented other measures in the overall screening process by helping to triage the large volume of passengers who transit airports. Any passenger with an elevated temperature reading was referred to the screening nurse for confirmation, completion of the screening protocol, and referral to hospital, if necessary.[851]

A study by the Public Health Agency of Canada (PHAC) provided statistical data regarding the number of travellers screened during SARS:

> As of July 5, 2003, a total of 1,172,986 persons received either yellow or cherry HANs. A total of 2,889 persons answered yes to at least 1 screening question on the HAN and were referred to secondary screening according to protocol. None of the 411 outbound passengers who were

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[850] R.K. St. John, A. King, D. de Jong, M. Bodie-Collins, S.G. Squires, T.W.S. Tam, "Border screening for SARS, *Emerging Infectious Diseases* 11, no. 1 (2005), http://www.cdc.gov/ncidod/EID/vol11no01/04-0835.htm (St. John et al, "Border Screening for SARS").

[851] St. John et al, "Border Screening for SARS".

> referred for secondary screening in Toronto were asked to defer their travel. All persons were cleared, and none were referred for additional medical examination.
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> In addition, 763,082 persons (467,870 inbound and 295,212 outbound) were screened by the thermal scanners. Only 191 persons had an initial temperature reading of 38°C and were referred for secondary evaluation. No data were collected systematically to correlate thermal scanner results with results of temperature taking by secondary screening nurses. Some of the persons arriving or departing Toronto and Vancouver airports were screened by both HAN and thermal scanning measures.[852]

It became apparent that airport screening did not work and that the best way to identify SARS cases was at the first point of entry to the health system, Dr. Young said on the CBC. Later studies supported what Dr. Young claimed at the time. The PHAC study concludes:

> We suggest that in-country, acute-care facilities (hospitals, clinics, and physicians' offices) are the de facto point of entry into the health care system for travelers with serious infectious diseases.

One of this study's authors, Dr. Ron St. John, was quoted in another article as saying:

> They didn't detect any SARS … Sometimes what seems like a reasonable thing to do doesn't turn out that way.[853]

Another study, from the U.K., reported in the *British Medical Journal*, has similar findings:

> Entry screening is unlikely to be effective in preventing the importation of either SARS or influenza. The incubation period for SARS is too long to allow more than a small proportion of infected individuals to progress to symptomatic disease during flight to the UK from any destination.[854]

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852. St. John et al, "Border Screening for SARS".

853. "Screening methods used during SARS outbreak had limited success: study" The Canadian Press, December 28, 2004.

854. *British Medical Journal*, September 23, 2005.

Dr. Naylor gave a presentation to the Standing Senate Committee on screening systems that were used during SARS. He stated that there is a need for information in people's hands and for a good public health infrastructure to support the information being handed out:

> Absent that, you have to focus on two things. One is information. You have to put masses of information in the hands of people. Assuming that most people are good, well intentioned and want to do the right thing, they will bring themselves to public notice quickly if they have suspicious symptoms and have been travelling. Second, you need a strong, local public health infrastructure so that when someone phones and says, "I have this information packet, I was just in wherever and I have the symptoms that match, I am worried that I may have X or Y," there is an instant response. Someone is at the house in 30 minutes. They get the information about what to do on the phone. They are transported, with appropriate precautions, to an emergency room that has an isolation area. They go into hospital, if need be, and into a negative pressure room, if that is required.
>
> There must be a local system that knows how to respond to the traveller who has concerns or suspicious symptoms. We believe, and we have recommended, as I think honourable senators will have read, that there is a need for a multilateral, international process to reconsider travel screening; but also that we need in Canada to take a sober and critical look at the results of our screening activities. Millions of people went through thermal scanners and card systems with no cases detected. Let us have a critical look at it and decide what we need to do as a country in terms of information for travellers and screening.
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> Quarantine officers are another issue that has been covered in the report in some detail. We need a proper set of quarantine officers at all ports. This is all there. The United States government has become increasingly concerned about global travel as a means for the spread of new or re-emerging communicable diseases … A National Response Guidelines Manual has been developed by the U.S. Department of Transportation which provides a "big picture" for those involved in both planning for and responding to a quarantinable, communicable disease incident at an airport.[855]

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[855] The Standing Senate Committee on Social Affairs, Science and Technology, chaired by Senator Michael Kirby, October 9, 2003.

The Commission agrees with Dr. Naylor's observations, as set out in the Naylor Report:

> Screening for a rare disease like SARS in a large population (i.e., millions of travelers) is both difficult and ineffective with an extremely low likelihood of actually detecting cases.
>
> Also, travel screening fails to detect those who may be incubating the disease – these individuals would still be symptom-free. Screening healthy people for infectious diseases should be based on certain premises: that a disease is present in the general population, that it can be detected by screening measures, and that there is a high risk of transmission by asymptomatic individuals. None of these conditions were met by SARS. In the absence of such features, screening healthy people is expensive, possibly highly intrusive, and can create a false sense of security or needless anxieties.[856]

The screening program was well intentioned and was somewhat helpful in that it provided some information to the public. However, it turned out in SARS to be an ineffective measure with the potential to divert resources from more effective work and can create needless anxiety in individuals and a false sense of public reassurance.

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856. Naylor Report, p. 206. The Naylor Report made a series of recommendations to ensure that travel screening is imposed only when evidence suggests it will be effective, to improve quarantine officer resources, to improve communication of health risk to travellers and the travel industry and to develop cooperative intergovernmental protocols to these ends. The Commission endorses the thoughtful recommendations of Dr. Naylor, listed at p. 207 of his report.

The SARS Alliance

During the second SARS outbreak, the Ontario government decided to concentrate the treatment of SARS in four key hospitals that became known as the SARS Alliance. It was a decision made in an emergency, but one that was not widely acclaimed.

The SARS Alliance was a stopgap measure for a provincial or regional emergency plan that, as noted elsewhere in this report, Ontario did not have in place.

The hospitals designated were North York General Hospital, St. Michael's Hospital, Scarborough General Hospital and the William Osler Health Centre. The idea behind the move was to concentrate the treatment of SARS to these four hospitals. This would pool the expertise that had developed and, it was hoped, would free up other health care facilities to carry out their normal functions without the heavy burden of dealing with SARS patients.

Tony Clement, Ontario's Minister of Health at the time, said in a media release:

> We are concentrating the treatment and expertise of SARS at four key sites around the Greater Toronto Area to ensure we quickly identify and contain the disease during this current wave of cases … This will help us protect the capacity of the health care system as well as ensure that the health care system in the GTA keeps running safely and efficiently.[857]

Mr. Clement said the four hospitals would work together:

> … to develop a plan for moving patients in alternative levels of care, establish specialized units with dedicated staff, formalize agreement on staffing, resources and supplies, and ensure transfer protocols are in place.[858]

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[857] Ontario Ministry of Health and Long-Term Care, media release, Canada News Wire, May 27, 2003.

[858] Ontario Ministry of Health and Long-Term Care, media release, Canada News Wire, May 27, 2003.

People interviewed by the Commission and those who spoke at the public hearings praised those who volunteered to work at the Alliance hospitals, but generally the move received a lukewarm reception.

The most critical comment came from an emergency medicine physician who worked in various capacities during the outbreak. In a submission to the Commission, he said that the SARS Alliance provided minimal, if any, benefit:

> NYGH, Scarborough General frequently did not have beds. Etobicoke General was not prepared until late to accept patients, and St. Michael's Hospital appeared to limit its transfers to intubated patients. The cost was prohibitive as nurses and other were given 2x contract pay. The non-SARS hospitals still had to care for SARS patients while waiting for beds and were not being paid the same rates. This pay inequity led to tremendous anger with some staff taking leave of absence or resigning.[859]

In hindsight, the physician said, it would have been better to protect some hospitals that provide specialized care such as trauma, burns, surgery and oncology from accepting SARS patients.[860]

The additional pay at the SARS Alliance hospitals was clearly a contentious issue. The Naylor Report noted that it created inequities, as health workers at other hospitals who had treated SARS patients did not get the benefit of double-time pay. Dr. Naylor also noted that the Ministry of Health and Long-Term Care did not sanction the move:

> The SARS Alliance hospitals chose to provide double-time pay to those individuals working in SARS affected areas/SARS units. The OMHLTC did not sanction this action. It was heavily criticized from an equity perspective since other hospitals that treated SARS patients did not provide the same benefit to their staff. Further, staff were provided the additional salary whether or not the SARS unit they worked on actually treated SARS patients. As a result, in some cases staff treating SARS patients received no added compensation benefit, while others who did not treat SARS patients did receive additional compensation.[861]

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[859] Dr. Laurie Mazurik, submission to the SARS Commission, September 7, 2003, p. 2.
[860] Dr. Laurie Mazurik, submission to the SARS Commission, September 7, 2003, p. 2.
[861] Naylor Report, p. 154.

The Ontario College of Family Physicians paid tribute to those who volunteered when North York General Hospital was asked to become a SARS Alliance hospital. The College's Executive Director and CEO, Jan Kasperski, told the Commission at its public hearings:

> … they quickly stepped up to the plate. I can tell you that no one was thrilled with the idea, but it was their own colleagues, their co-workers, who had fallen ill, and they wanted to bring as many of them as possible back into their own institution so they could care for them … Several family physicians and our residents volunteered to act as the attending physicians on the SARS ward.[862]

The president and CEO of a Toronto-area hospital was not impressed with the SARS Alliance as a response to the crisis:

> I think there needs to be much more focus on infection control so that you can handle these things … Designating a SARS hospital [is not enough]. Next week it's some other disease.

She said she favoured a more general approach:

> This was an outbreak. We didn't know what it was. So you're designating something [SARS Alliance] way after the fact. Its [success depends] on how you deal up front with something that you don't know about. My own view is that you have to, as much as possible, put in place mechanisms which control the possibility of those outbreaks occurring.

She told the Commission that such precautions should include universal precautions and building hospitals that can handle the virulent diseases that may be on the horizon:

> I think what you need [is] to have hospitals that can deal with outbreaks of infectious diseases. You need hospitals where, when people come into an emergency department, it's not like a cattle car and they're all put together … I think somebody talked about the reality of coming into an emergency department with somebody sitting, or in the next cubicle, two

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[862] SARS Commission Public Hearings, October 29, 2003.

> feet away. Hospitals aren't designed to deal with these diseases, whether it's emergency departments, intensive care units, etc.

But she said that newly constructed hospitals are taking these problems into account:

> Hospitals are built now to handle the really virulent diseases that you get. If you look at the evolution, for instance, of intensive care units in the country, it used to be that an intensive care unit [ICU] was one big room and there'd be a nursing station at the front and you'd sit and watch all the patients … Over the years, new ICUs are built now where they're all individual rooms. One of the reasons is that if you get [an outbreak], you have to shut down the whole ICU … If any hospital would have to shut down an intensive care unit, it would be a mess. So there is now a move towards having ICUs that are individual rooms with individual air pressure systems so if you have a patient in a room with a infectious disease, you could handle that through negative air pressure.

The SARS Alliance was a decision made in the middle of a crisis, and it is hard to fault the government for trying to get control over the situation. But it would have been much better to have an emergency plan in place that had already considered and resolved the issues that arose when the SARS Alliance hospitals were designated during SARS.

Ministry of Labour Investigations

The Ministry of Labour, pursuant to the *Occupational Health and Safety Act*, investigated the SARS deaths of nurses Tecla Lin and Nelia Laroza and of physician Nestor Yanga[863] and conducted occupational illness and critical injury investigations into the illness from SARS of 146 health workers. Although these investigations and the legal decisions arising from them are not at the core of the Commission's mandate, they do come within its outer margins and warrant brief comment here.

Investigations into the deaths of Ms. Laroza and Ms. Lin recommended the laying of charges under the *Occupational Health and Safety Act*. In the case of Dr. Yanga no such recommendation was made.

To guard against potential conflict of interest, the charge screening process was conducted outside the Ministry of Labour, by Crown counsel at the Ministry of the Environment. Following these reviews, decisions were made not to lay charges in connection with either the death of Ms. Laroza or the death of Ms. Lin.

The decision whether to lay charges as a result of any Labour investigation, including these investigations, is made in the end by Ministry legal advisors on the basis of investigation reports and of legal and quasi-judicial considerations, for example: Are there in law reasonable and probable grounds to believe that there has been a violation of the *Occupational Health and Safety Act*? Is there a reasonable prospect of conviction if charges are laid? Are defences open to the potential accused, such as due diligence or necessity? Is it in the public interest to proceed with charges in particular case? The basis of the legal decision not to lay charges in these cases is beyond the reach of the Commission because the legal opinions that underpin those decisions are the subject of a claim of solicitor-client privilege asserted by the Ministry of the Attorney General.

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[863] The names of Ms. Lin, Ms. Laroza and Dr. Yanga are used here because the circumstances of their illnesses and deaths are in the public domain.

None of the critical injury[864] and occupational illness[865] investigations into how 146 health workers contracted SARS recommended the laying of charges.

These investigations were seriously hampered by the fact that they did not begin until February 2004, leaving insufficient time for a full and thorough investigation before the expiry in March 2004 of the time for laying charges imposed by the one-year limitation period under the *Occupational Health and Safety Act*.

In all, the Ministry received 146 occupational illness and critical injury notifications and three fatality notifications.[866] Under the *Occupational Health and Safety Act*, employers must notify the Ministry in writing of a critical injury within 48 hours of the occurrence[867] and of an occupational illness within four days.[868] This timely notification allows the Ministry the opportunity to quickly investigate the events that led to the critical injury or occupational illness and to prevent its recurrence.

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[864] A probable case of SARS was considered a critical injury.

[865] A suspect case of SARS was considered an occupational illness.

[866] There were major problems with the notification process. The Ministry told the Commission:

> The majority of these notifications were received after employers were ordered to do so by MOL inspectors. (Ministry of Labour, submission to SARS Commission, March 15, 2006, p. 19)

[867] Section 51. (1) of the Act states:

> Where a person is killed or critically injured from any cause at a workplace, the constructor, if any, and the employer shall notify an inspector, and the committee, health and safety representative and trade union, if any, immediately of the occurrence by telephone, telegram or other direct means and the employer shall, within forty-eight hours after the occurrence, send to a Director a written report of the circumstances of the occurrence containing such information and particulars as the regulations prescribe.

[868] Section 52. (2) of the Act states:

> If an employer is advised by or on behalf of a worker that the worker has an occupational illness or that a claim in respect of an occupational illness has been filed with the Workplace Safety and Insurance Board by or on behalf of the worker, the employer shall give notice in writing, within four days of being so advised, to a Director, to the committee or a health and safety representative and to the trade union, if any, containing such information and particulars as are prescribed. R.S.O. 1990, c. O.1, s. 52 (2); 1997, c. 16, s. 2 (12).

Note that the Act defines "Director" as follows: "Director means an inspector under this Act who is appointed as a Director for the purposes of this Act; ('directeur')."

On February 24, 2004, teams of inspectors were assigned to begin investigations at Toronto Emergency Services, St. John's Rehabilitation Centre, North York General Hospital, the Scarborough Grace and Scarborough General Division hospitals, and Mount Sinai Hospital. On March 3, 2004, another team was assigned to begin an investigation at Sunnybrook.

The investigations faced a time constraint because section 69 of the *Occupational Health and Safety Act* states that charges must be laid within a year of the event under investigation:

> Limitation on prosecutions
>
> 69. No prosecution under this Act shall be instituted more than one year after the last act or default upon which the prosecution is based occurred. R.S.O. 1990, c. O.1, s. 69.

The delay in starting the investigations meant that Ministry inspectors were pressed for time. Observers familiar with the investigation said the late start date did not leave the investigators enough time to do a proper investigation, that they basically ran out of time.

The problem was not the competence of the investigators or the quality of their investigation, both of which appeared to the Commission to be high, but the delay in giving the investigators the go-ahead to proceed.

In explaining why these investigations were not begun earlier, the Ministry said:

> Investigations of the fatalities and preparation for the investigations into the occupational illnesses and critical injuries began prior to the receipt of the reports. The reports were received by MOL in early February 2004, and the MOL was then able to continue its investigations into all 146 occupational illness and critical injury notifications and the 3 fatality notifications.
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> The MOL carries out a significant number of highly complex investigations such as structural collapses, geological stability, and asbestos removal each year involving input from various experts and information from a wide variety of sources. For the most part, these investigations involve long standing generally accepted scientific, engineering and/or medical standards.

> The SARS investigations, however, presented an even higher level of complexity. Information with respect to SARS continued to evolve from day one of the outbreak until well after the emergency was declared over. The criteria for a diagnosis of SARS changed during and after the outbreak as did the information with respect to its transmission. As a result, the MOL was required to analyse all of the POC [Provincial Operations Centre] directives issued during the outbreak as well as the evolving information from the WHO and other organizations involved in the ongoing monitoring of SARS.
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> Unlike the overwhelming majority of workplace hazards, SARS was not a hazard localized to one particular workplace or even one area within a workplace. Contact tracing with respect to each worker, as reported by Toronto Public Health, had to be followed up by the MOL to attempt to determine where a worker had contracted SARS (i.e., a workplace, a public gathering or location other than a workplace). The movement of workers diagnosed with SARS was tracked within hospitals as well as from one facility to another to determine what precautions had been taken to ensure the disease was not spread within a facility, to the public at large and to the facility where a worker may ultimately have ended up. Details such as where and in which order personal protective equipment was put on and removed was analyzed.[869]

The investigations were begun very late into the one-year window for the laying of charges. No matter what difficulties faced the Ministry, and whatever the validity may be of its reasons for starting the investigations so late, it does not generally enhance the reputation of any regulatory and enforcement body if investigations are launched so late that investigators do not have sufficient time to do their work properly.

Public confidence is vital for any regulatory and enforcement ministry. In the case of the Ministry of Labour, this means that investigations into critical injuries and occupational illnesses arising from a disaster of the magnitude of SARS must be commenced expeditiously.

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[869] Ministry of Labour, submission to the SARS Commission, March 15, 2006, p. 20.

Public confidence in the process of investigation and in the decision to prosecute also requires an element of openness. The system under which the SARS labour investigations proceeded, and under which the decision was made not to prosecute, lacks the degree of openness necessary to secure public confidence.

Whenever a worker safety charge is laid and then proceeds to court, the principle of open justice requires that the proceedings and any decision to terminate proceedings short of a trial take place in public.

The difficulty occurs in cases like this, where the investigation recommended that charges be laid in certain cases and not others, where there have been no court proceedings, and where the public and the families of the deceased and the affected health workers are left completely in the dark.

Public accountability and openness require a better system to inform the public and those affected by these important decisions.

Because this issue is at the outer margin of the Commission's terms of reference, the Commission has no mandate to propose prescriptive solutions. Any prescriptive solution to this problem requires extensive consultation with health worker unions, the Ministry of Labour and the Crown law officers who bear the ultimate responsibility to decide whether charges of this nature will proceed. The solution is tangled up in a knot of laws that govern worker safety, privacy and freedom of information, and Crown privilege.[870] It is time to cut that knot.

The Commission therefore recommends legislative amendments and policies in relation to the waiver of potential Crown privilege claims, that in such cases where charges do not result from Ministry of Labour and other investigations of deaths and critical injuries in health workplaces, the results of the investigation and the reasons for the decision not to prosecute be made public.

Another problem arose during the course of the worker safety investigations, and also in the investigation by the North York General Joint Health and Safety Committee, that requires comment. That problem has to do with the amenability of doctors to the system that protects worker safety and investigates workplace deaths and injuries.

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[870] These problems are not insurmountable even within the current state of the law, as seen by the extensive reasons given publicly by Attorney General Roy McMurtry for a number of decisions not to prosecute high-profile cases, including those of Dr. Henry Morgentaler and the Honourable Francis Fox.

Difficulties arose during the Ministry of Labour death and critical injury investigations and the North York General Joint Health and Safety Committee investigation in respect of the status and obligations of hospital doctors under worker safety legislation. Doctors, by the nature of their work, are often obliged to give orders and directions to nurses and others that could affect their safety in the workplace. But every doctor is not an "employer" within the meaning of current safety legislation. Many doctors whose work has a profound effect on worker safety have arguably no obligations under safety legislation and arguably no obligation to cooperate with investigators who try to find out what happened in a worker's death or critical injury.

The problem is clear; the solution, less so. Independent doctors will be concerned about any legislation or regulation that makes them look like hospital employees or employers of hospital staff. Any solution must take account of these legitimate concerns about physician independence.

But those concerns should not frustrate the ability of our worker safety systems to get to the bottom of what has happened in the death or critical injury of a health worker. It makes no sense that two doctors work side by side, a hospital administrator and an independent physician in the hospital, each of them with a profound effect on the safety of hospital employees – one of them within the worker safety regime and the other completely exempt from that protective framework.

Worker safety in hospitals and in other health care institutions requires reasonable legislative measures to include all physicians within the worker safety regime without interfering with the essential independence of the physician and without making her a hospital employee.

Such legislative measures may need to include not only the *Occupational Health and Safety Act* but also those statutes which govern the administration of health care institutions and the medical profession.

It would be presumptuous for the Commission to recommend a prescriptive solution at this time. That task will require a good measure of consultation and a thorough analysis of the complex professional and statutory framework within which doctors work in health care institutions.

The Commission recommends the amendment of worker safety, health care and professional legislation to ensure that physicians who affect health worker safety are not excluded from the legislative regime that protects health workers. Because the prescriptive solution will require consultation and analysis and time and patience, it is essential to start now.

Seven Oaks: A SARS Footnote

Introduction

In the fall of 2005, an outbreak of legionnaires' disease[871] swept the Seven Oaks Home for the Aged in Toronto, infecting 70 residents, 39 staff, 21 visitors and five other people who lived or worked nearby. Twenty-three residents died.[872] The outbreak brought back memories of SARS and initially some talk about whether SARS was back.

Unlike SARS, legionnaires' disease is not spread by person-to-person contact. Instead, people are infected when they inhale mist from a water source with high concentrations of the *Legionella* bacteria. The source of the Seven Oaks outbreak was likely its cooling tower.[873]

Seven Oaks brought back memories of SARS[874] largely because of the mystery surrounding its causative agent, which was not identified until October 6, 2005, nearly two weeks after the first residents started getting sick.

The Ministry of Health commissioned an expert panel to investigate the response to the outbreak. The panel comprised two physicians who led the fight against SARS and another who had chaired an important SARS policy study.

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[871] A type of pneumonia caused by the *Legionella pneumophila* bacteria, it was first identified in 1977 after causing 34 deaths at a 1976 American Legion convention in Philadelphia.

[872] Ministry of Health and Long-Term Care, *Report of the Expert Panel on the Legionnaires' Disease Outbreak in the City of Toronto September/October 2005*, December 2005, p. 4 (Seven Oaks Report)

[873] "Given the high attack rate in the Seven Oaks facility, it seems very likely the long-term care home's cooling tower was the source, despite the fact that the home and its water and cooling systems were well maintained and that the maintenance program met current standards" (Seven Oaks Report., p. 28).

[874] CNN sent a reporter to Toronto to cover the Seven Oaks outbreak. In a report broadcast on October 5, 2005, he said: "Keep in mind it was just two years ago there was a severe outbreak of Severe Acute Respiratory Syndrome, or SARS, right here in Toronto. Forty-four people died. There were certainly a lot of jitters in the community about that back then."

The Seven Oaks report provides the Commission with an opportunity to comment on developments in the health system since SARS.

The report said:

> The Legionnaires' outbreak was the first time since SARS in 2003 that Ontario faced the threat of an illness that could not be easily or quickly identified. It was also the first opportunity to test the lessons learned from SARS.[875]

Seven Oaks and Worker Safety

As noted throughout this report, the Ministry of Labour was largely sidelined during the SARS outbreak. When the Centers for Disease Control and Prevention (CDC) sent a team to Toronto to investigate the infection of nine health workers at Sunnybrook on April 13, 2003, for example, no one thought to notify the Ministry of Labour that a worker safety investigation was being conducted at Sunnybrook.

Two years after SARS, the Seven Oaks panel investigated an outbreak in a workplace where nearly 30 per cent of the victims were workers, but the Ministry of Labour was not an integral partner in the investigation[876] and the panel's membership did not include a worker safety expert.

This does not reflect on the qualifications and expertise of the three panel members, who are leaders in their fields and internationally recognized. It does show that worker safety is still not taken as seriously as it should be. It also meant that the panel, unfortunately, was not given the kind of worker safety expertise this type of investigation requires. That this would have been of value was demonstrated in a letter the Ministry of Labour sent to the Ministry of Health in February 2006. The letter identified issues that could have been better understood if the panel had had Ministry of Labour and worker safety representation.

The Seven Oaks report said:

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[875] Seven Oaks Report, p. 4.

[876] The expert panel did interview one or more officials at the Ministry of Labour. See page 41 of the Seven Oaks Report for a list of organizations that were interviewed.

> EMS workers were wearing a higher level protection, including N95 masks, as is the norm for their practice. EMS workers have a different standard for personal protective equipment because they regularly go into environments where the health risks are unknown. Their standard PPE is designed to protect them from toxins and chemical contaminants in the environment as well as infectious disease. Although the differences in PPE are based on science and practice, they are not well understood in the workplace.[877]

Labour responded:

> In MOL's view, based on "science and practice", EMS workers would require a supplied air respirator or a self-contained breathing apparatus for suitable protection against "unknown" chemical hazards. An N95 respirator would not be suitable, for example, where the unknown risk was from carbon monoxide. The use of an N95 in the presence of carbon monoxide may result in serious disability or death to the EMS worker. In fact, EMS workers use N95 respirators for protection against unknown infectious agents and for protection during high-risk aerosol generating procedures such as intubation and pulmonary suctioning. An N95 respirator is not suitable for protection against unknown "toxins of chemical contaminants". This report, in endorsing this incorrect use of N95 respirators, may lead to significant morbidity and mortality among EMS workers when exposed to unknown chemical health risks.[878]

The Seven Oaks report said:

> Ontario does not have specific standards for environmental maintenance.[879]

Labour responded:

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[877] Seven Oaks Report, p. 21.

[878] Appendix to February 22, 2006, letter from Virginia West, Deputy Labour Minister, to Ron Sapsford, Deputy Health Minister.

[879] Seven Oaks Report, p. 29.

> This statement is not correct. In fact, the *Occupational Health and Safety Act and Regulation* contains requirements to prevent Legionella growth in water and ventilation systems.[880]

Any deficiencies in the Seven Oaks report do not reflect on its distinguished authors, who, unfortunately, were not provided with sufficient worker safety expertise. These deficiencies are, however, sadly reminiscent of problems during the SARS outbreak when the response to the outbreak lacked sufficient involvement of the Ministry of Labour and of independent Ontario worker safety experts.

Also reminiscent of SARS and the sidelining of the Ministry of Labour was the recommendation of the Seven Oaks report that Labour's standard-setting powers regarding worker safety be given to the Ministry of Health.

The Seven Oaks report recommended:

> 3.2 Clarifying the responsibilities of different ministries and ensuring consistent messages (i.e., making the Ministry of Health and Long-Term Care responsible for establishing policy regarding the appropriate infection prevention and control measures in an outbreak and the Ministry of Labour responsible for enforcing and ensuring compliance with that science-based policy).[881]

SARS demonstrated that worker safety requires an independent regulator with two important roles. First, the regulator must be responsible for the development of worker safety standards that reflect the latest scientific research, occupational health and safety expertise and best practices, and the standards recommended by other agencies, such as the National Institute for Occupational Safety and Health (NIOSH). Second, once safety standards are set, the regulator must ensure that all workplaces are aware of and in compliance with those standards.

It would be improper for the Ministry of Health, as the Ministry that funds and oversees the health care delivery system, to regulate itself and the system for which it is responsible. This would place it in an untenable position.

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880. Appendix to February 22, 2006, letter from Virginia West, Deputy Labour Minister, to Ron Sapsford, Deputy Health Minister.

881. Seven Oaks Report, p. 35.

The Seven Oaks report also argues against taking a precautionary approach to personal protective equipment:

> While many may think that, in terms of infection prevention and control, "more is better" – that is not the case. There are serious and inherent risks – to health care providers, to patients and to the system – in using higher-level precautions when they are not required.[882]

The report lists six risks related to what it called an inappropriate use of higher-level precautions:

- Personal protective equipment is uncomfortable and difficult to put on, so it is often misused or worn improperly
- Errors are more common
- Workers tend to become over confident in their equipment and neglect other key measures, such as hand hygiene
- Health care providers experience health problems (e.g., rashes, problems breathing)
- Patient care may suffer
- It is costly and uses supplies that may be required when the system is faced with diseases that require that level of protection[883]

Representatives of health workers took issue with the report's arguments against the precautionary principle:

> On page 22, the report lists the "Risks of Inappropriate Use of Higher Level of Precautions." We do not accept that any of the factors on this list offer a compelling argument against accepting the precautionary principle and providing better respiratory protection. The first risk cited is that "personal protective equipment is uncomfortable and difficult to put on, so it is often misused or worn improperly." The work environment of an HCW [health care worker] is not known for its ease or comfort. It is our

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[882] Seven Oaks Report, p. 22.

[883] Seven Oaks Report, p. 22.

experience arising from SARS that most workers are prepared to accept a certain level of discomfort if they believe it may save their lives. We have seen no evidence to support the statement that because the equipment is uncomfortable or difficult to put on that it is *often* misused or worn improperly. Our experience during SARS was that workers had never been fit-tested, nor had they received prior training about putting on and wearing N95s and other new PPE – consequently, they made errors. However, the problem was lack of training and experience, problems which can be readily addressed.

The next risk cited is that "errors are more common." We have no idea of what kind of errors are being referred to, or what evidence there is of these "errors."

Next, the report states that "workers tend to become over-confident in their equipment and neglect other key measures such as hand hygiene." It is [a health workers' union's] experience that this is true in some instances, especially around the use of protective gloves and hand-washing. This has been documented in studies and anecdotally. However, no one has suggested that protective gloves should be abandoned because workers fail to wash their hands properly. The focus has been on developing guidelines on when gloves should be worn, what kind of gloves should be worn and ongoing training to ensure that workers wear gloves appropriately and practice good hand hygiene. Consequently, we do not find this a compelling argument to decide not to provide N95 respirators.

Another risk listed is that "health care providers experience health problems (e.g., rashes, problems breathing)." In the early 1990s when HCWs began to develop latex allergies that were in some cases life-threatening, no one suggested that HCWs should no longer be provided with gloves to protect them from infectious agents. Once the allergy was better understood, scientists and manufacturers worked to develop alternative gloves that would not make HCWs sick. Within less than 10 years, it was rare to find an HCW who could not be accommodated back into her workplace using a non-latex or low protein latex glove. It is simply unacceptable for the Panel to suggest that because some PPE may cause health problems that workers should not be offered proper respiratory protection. Most workers will be able to find an appropriate N95 respirator that will not cause a rash. Some workers may need other accommodations.

> The report states that "patient care may suffer." [A health worker union] does not know what evidence the Panel is using to support that statement. It is our position that in cases where workers are afraid of contracting an unknown illness and where they believe that their employer is not taking all reasonable precautions to protect them, it may have an effect on the quality of care they are able to deliver.
>
> The final risk is that higher level precautions are "costly and uses supplies that may be required when the system is faced with diseases that require that level of protection." If we believed that N95 respirators were unjustified, we would accept that statement. However, since it is our position that in cases where there is a risk of airborne infection, N95s should be used, we do not accept it.[884]

Other representatives of health workers also took issue with the Seven Oaks Report's arguments:

> A day in the life of a health care worker is replete with all varieties of discomfort. While health care workers (like all workers) would prefer not to wear respirators, they are prepared to adjust to discomfort when necessary to make the very air they breathe safe for themselves and safe to pass on to patients and family. Firefighters, steelworkers, chemical workers and others have for decades routinely crouched in cramped, confined spaces for hours at a time, dragged down by much heavier respiratory protection than the N95 respirators … Given information and training about hazards and the need for respiratory protection, all workers tolerate the discomfort.[885]

If the Commission has one single take-home message it is the precautionary principle that safety comes first: that reasonable efforts to reduce risk need not await scientific proof. The Ontario health system needs to enshrine this principle and to enforce it. It is the most important single lesson of SARS, and it is a lesson ignored only at our collective peril.

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[884] Letter from OPSEU to Premier Dalton McGuinty, January 24, 2006.

[885] Letter from ONA to Premier Dalton McGuinty, December 15, 2005.

Conclusion

Seven Oaks showed the good side of Ontario's response to SARS: the excellent worker safety approach taken at North York General Hospital,[886] with the new infection control system under Dr. Kevin Katz in which health workers were enabled to choose the highest level of protection; the good communication between Toronto Public Health and the Ministry of Labour; and the fine leadership shown by Dr. David McKeown, the Medical Officer of Health for Toronto.

Seven Oaks also showed the bad side of Ontario's response to SARS systemic problems that remain unfixed; the problems at the provincial laboratory; the two solitudes between infection control experts and worker safety experts; the exclusion of the Ministry of Labour from the centre of the investigation and the subsequent report; the occupation by the Ministry of Health of worker safety territory, where one would expect greater presence and collegial involvement by the Ministry of Labour; the failure to ensure effective consultation with safety officials from health worker unions; and the strong echo of the turf wars between the health system and the worker safety system that so bedevilled SARS.

Seven Oaks demonstrated that many worker safety lessons of SARS have not been learned.

The Ministry of Labour must be independent in setting workplace standards and in enforcing them. It must be an integral member of the response to any infectious disease outbreak. It must be directly involved in any post-event review of any infectious disease outbreak in which workers have gotten sick. Any post-event review of an infectious disease outbreak in which workers have gotten sick must include worker safety experts.

The Seven Oaks outbreak also demonstrates the continuing reluctance of the health system to fully accept the importance of the precautionary principle in worker safety. Until this precautionary principle is fully recognized, mandated and enforced in our health care system, nurses and doctors and other health workers will continue to be at risk from new infections like SARS.

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886. North York General Hospital was one of seven hospitals that treated cases.

CHAPTER EIGHT: It's Not About the Mask

Introduction

One of the biggest bones of contention during SARS was the N95,[887] a respirator that protects much more than a surgical mask[888] and that was mandated for health workers caring for SARS patients.[889]

Although Ontario law since 1993 required that anyone using an N95 had to be properly trained and fit tested[890] to ensure proper protection, few hospitals complied with this law. Some medical experts even denied the very existence of this legal requirement.

Fit testing was the subject of official confusion and heated debate.

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[887] Using highly efficient filtering materials, N95 respirators are one of the nine types of disposable particulate respirators that are independently tested and certified by the National Institute for Occupational Safety and Health in the United States, which is part of the Centers for Disease Control. "The N indicates that the respirator provides no protection against oils and the 95 indicates that it removes at least 95% of airborne particles during 'worst case' testing using a 'most-penetrating'-sized particle." (Yassi, Annalee MD, MSc, FRCPC et al., "Research Gaps in Protecting Health Workers from SARS," *Journal of Occupational and Environmental Medicine* DOI: 10.1097/01.jom.0000150207.18085.41) (Yassi et al, "Research Gaps in Protecting Health Workers from SARS").

[888] In this chapter, *respirator* will refer to a respiratory protective device like the N95 that has been independently tested and certified. *Masks* will refer to any respiratory device like a surgical mask or the PCM 2000 that has not been independently tested and certified.

[889] The N95 was sometimes required in other areas of hospital even when not caring for SARS patients. As noted below, the provincial directives for the use of the N95 changed throughout SARS and were not always clear or consistent.

[890] Fit testing helps users select a respirator that best fits their faces and teaches them how to get a proper seal each time they use respirator, a procedure known as a *seal check*, and how to safely don and doff a respirator. A test verifies that the chosen respirator works properly. There are two types of tests. One is called a *qualitative fit test* and "relies on the user's subjective response to taste odour or irritation." The other is a *quantitative fit test* and "relies on an instrument to quantify the fit of a respirator." (Healthcare Health and Safety Association, *Respiratory Protection Programs* (2nd edition [Toronto: Healthcare Health and Safety Association, 2000]).

This chapter outlines how fit testing and the N95 became lightning rods for all the underlying problems of worker safety in health care.

Respiratory Protection: A Fundamental Worker Safety Issue

The real problem during SARS was not the N95 respirator or fit testing but deep structural contradictions in worker safety in the health care system. This included both embedded resistance within the health care system to worker safety experts and to the Ministry of Labour and Ontario's failure to recognize, as an aspect of health worker safety, the precautionary principle that reasonable action to reduce risk, such as the use of a fitted N95 respirator, need not await scientific certainty.

There were two solitudes during SARS: infection control[891] and worker safety.

Infection control insisted that SARS was mostly spread by large droplets which do not travel far from an infectious person. Given that case, in their view, a surgical mask was sufficient to protect health workers in most situations. Worker safety experts said workers at risk should have the higher level of protection of an N95. They said not enough is known about how SARS is spread to rule out airborne transmission by much smaller particles, and besides, hospitals are dynamic places where unforeseen events and accidents can always happen. Infection control relied on its understanding of scientific research as it stood at the time. Worker safety experts relied on the precautionary principle that reasonable action to reduce risk should not await scientific certainty.[892]

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[891] "Nosocomial infections, acquired by patients as a result of receiving health care, are under the purview of IC [Infection Control]" (Health Canada. *Prevention and control of occupational infections in health care: An Infection Control Guideline*. [Ottawa: Health Canada, 2002], p.2).

[892] This is a good place to note that Dr. Sheela Basrur, Chief Medical Officer of Health, has taken steps to improve this situation. Only time will tell if these steps are effective. She notes in her letter of March 9, 2006, to Ms. Linda Haslam-Stroud, RN, President, Ontario Nurses' Association:

> We recognize the need to ensure that the perspectives of occupational health and infection control receive consideration. In light of this, an occupational health physician is included in the membership of PIDAC and has been sitting on the committee since the inception of PIDAC in 2004. However, we see the importance in continuing to strengthen our links with the occupational health field and a physician delegate from the Ministry of Labour is now also sitting on PIDAC. This highlights our commitment to ensuring that occupational health and safety expertise is brought to the table during all PIDAC deliberations now and in the future. We are confident that building on this approach will assist in ensuring stronger linkages between occupational health and infection control on matters of science.

PIDAC refers to the Provincial Infections Diseases Advisory Committee.

A good illustration of their differences is the controversy over how far large droplets travel from an infectious person. Many infection control experts believe large droplets travel no more than one metre from the infectious person,[893] and they use this one-metre rule as a guide for what respiratory protection to wear. Worker safety experts are critical of this rule both on a scientific basis[894] and as a practical matter. They suggest that even if the one-metre rule could be proven scientifically, it is not realistic or safe in a workplace.

Dr. Diane Roscoe of Vancouver General said:

> It is not an easy thing for health care workers to remember. This is a three-metre or this is a one-metre thing, and this is not. And what am I supposed to do.

As a result, said another expert at Vancouver General,

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[893] To take one of many references, one respiratory protection manual says: "It has been a generally accepted infection control notion, based on epidemiological observations, that diseases spread by large droplets typically are not spread to others via the respiratory tract when more than 1 meter from the source" (Healthcare Health and Safety Association of Ontario, "*Respiratory Protection Programs*, 2nd edition, p. 1).

[894] See Bob Janssen, MSc, ROH, Senior Policy Analyst, "A Scientific Review – The Influenza Pandemic: Airborne vs. Non-Airborne Transmission and Considerations for Respiratory Protection" Vancouver: Policy & Research Division, WorkSafeBC, December 2005:

> One should be aware of the effects of droplet evaporation and the resultant diminution in size of ejected droplets. A 30 Ìm droplet dries to a 5 Ìm droplet within seconds under normal indoor air conditions. This means that a large droplet, as it evaporates, will not settle to the ground but become a free-floating entity. This has implications for the 3 foot rule, the basis for infection control precautionary measures, since it is commonly believed that large droplets ejected upon sneezing or coughing will follow Stoke's Law and fall to ground within a 3 foot distance from the person's face. It is evident that it is commonly believed that the 3 foot rule is a division between an unsafe and safe distance.
>
> There is no indication that the 3 foot rule takes into consideration the evaporation factor and the drift factor of airborne droplets, as discussed above. No scientific evidence is offered by WHO, DHHS-CDC, PCAH, or other medical authorities in explaining the rule. If large droplets quickly evaporate to free-floating small droplets, then the 3 foot rule applies only to droplets greater than about 50 – 100 Ìm in diameter for which there is insufficient time chance for evaporation to take effect before they fall to the ground from a height of 5–6 feet. Free floating small droplets readily go beyond the 3 foot radius. Therefore, if the majority of ejected droplets following a sneeze are evaporated to a size that is free-floating after only seconds in air, the 3 foot rule becomes illogical and not particularly helpful from a disease transmission perspective.

> We always start with the highest level of precaution … We don't use droplet precautions in our hospital, never have, because we've always believed that droplets have been aerosolized so we only have one category, that's airborne, and you always start with the highest level of precaution and then as the clinical situation becomes clearer, you step back on your precautions – and we have found that the easiest for workers to understand rather to try to figure out when to wear a surgical, when to wear an N95, you know, how close am I to the patient, do I need to put on a mask – it's just simpler for them to remember that this patient's got respiratory symptoms, yes, put on an N95, do the appropriate precautions.

Dr. Elizabeth Bryce of Vancouver General said:

> Even if you did determine [the distance from the patient] … like poof, you know you are this distance, you put on a mask and presto, and you step back a foot and you no longer need a mask … [health workers] are moving in and out of the "danger zone" for sure for droplets. They are in and out when they are in a room. And it is just simply easier for everyone and safer for them to put on some sort of respiratory protection when they step into the room … You've got the patients moving around and the staff moving around. It is very hard to keep the spatial separation and just – we just feel it is safer too.

The point is not who is right and who is wrong about airborne transmission, nor is it how far large droplets travel. The point is not science, but safety. Scientific knowledge changes constantly. Yesterday's scientific dogma is today's discarded fable. When it comes to worker safety in hospitals, we should not be driven by the scientific dogma of yesterday or even by the scientific dogma of today. We should be driven by the precautionary principle that reasonable steps to reduce risk should not await scientific certainty.

The debate about respiratory protection and fit testing can be understood only in the context of the heavy burden of disease that fell on hospital workers, paramedics and others who worked in Ontario's health system during SARS. Two nurses and a doctor died from SARS. Almost half of those who contracted SARS in the health system were people who got the disease on the job.

Table 1 – Probable and Suspect SARS Cases Contracted in Health Care Settings[895]

	Phase 1	Phase 2	Total Number of Suspect and Probable Cases	Percentage of Total Number of Cases (375)
Health workers	118	51	169	45%
Patients	23	35	58	15%
Visitors	20	23	43	11%
Total	161	109	270	72%

Most of these workers were nurses whose jobs brought them into the closest and lengthiest contact with sick patients. And this does not show the full burden of SARS on nurses, paramedics and other health workers. Nurses sick with undetected SARS inadvertently brought illness, and in some cases death, home to their families.

Again and again nurses were told they were safe if they would only do what they were told by the health system. Again and again these scientific assurances, though well intentioned and issued in the best of good faith, turned out to be tragically wrong.

It is no wonder that nurses became alarmed when they saw their colleagues sicken and die. It is no wonder that they became angry when they saw such incidents recur again and again with no apparent improvement in their safety.

As SARS continued and more health workers fell ill, the resulting justified lack of confidence in health care safety systems fuelled a heated debate about the need for the N95 respirator and for the safety requirement that workers be fit tested and trained in its use.

Some infection control experts argued in good faith that the fit testing law was ill advised; that N95 respirators were not needed because SARS was droplet spread, not airborne; that the Provincial Operations Centre was wrong to require fitted N95s; and that nurses would be safe if they followed the advice of their employers instead of the safety procedures required by law.

Nurses pushed back with understandable heat, saying that hospitals should follow safety laws. Nurses took the reasonable position that if hospitals did not obey the law, then the Ontario Department of Labour should fulfill its enforcement mandate and make them do so.

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[895] Dr. Colin D'Cunha, presentations, SARS Commission Public Hearings, September 29, 2003.

This is not the place to enter into that acrimonious debate. Nurses are angry, with good reason, that so many got sick and that safety laws were not respected or enforced. It must noted that the experts who campaigned against the N95 and fit testing undoubtedly acted in good faith, doing what they believed was in the best interests of health workers and the health system. It would be too easy to personalize this debate and point out that some of those who most vociferously oppose the N95 and fit testing, and who were most disdainful of nurses and independent safety experts who prefer precaution, were the very people on whose watch nurses became sick despite the assurances that they were safe. Whenever someone presides over a system that fails and then leads a campaign against greater precaution, it is easy to forget that there are bigger issues at stake, more important things than arguing over who is right and who is wrong.

Scientific uncertainty and scientific debate can go on forever. We do not need a personalized debate or further recriminations. What we do need is a common-sense approach to worker safety in hospitals coupled with a measure of scientific humility in light of the terrible and sometime fatal failures in scientific advice and hospital safety systems during the SARS outbreak. What we need to do is to follow the precautionary approach that reasonable steps to reduce risk need not await scientific certainty. It is better to be safe than sorry.

The only way to make nurses and other health workers safe is to transcend the turf wars that hampered the fight against SARS. These turf wars continue even after SARS proved that hospital safety systems failed to protect workers.

On the one hand, some experts believe that in the face of a still relatively unknown disease like SARS, you can avoid a precautionary approach, start with the lesser protection of a surgical mask and ramp up to an N95 if and when it's needed.

On the other hand are independent safety experts like those in British Columbia, which stopped SARS in its tracks, like those from the Centers for Disease Control and NIOSH and like those from the Ontario Department of Labour say, who that experience dictates a common-sense precautionary approach, starting with a higher level of protection that is reduced as the clinical situation is clarified.

Until this precautionary principle is fully recognized, mandated and enforced in Ontario's hospitals, workers will continue to be at risk.

Airborne and Droplet Transmission

At the heart of the mask debate is the question of airborne transmission. Is SARS spread mostly by large droplets? What is the risk of airborne transmission?

It is instructive to set the stage for the story of the N95 with a nutshell description of how SARS is transmitted from person to person.

Droplets from the breath of an infected person can contaminate surfaces and articles on which they land:

> Viable organisms may survive long enough in droplets deposited on environmental surfaces to contaminate the hands of caregivers and then be further transmitted.[896]

Objects thus contaminated are called *fomites*. Fomite transmission occurs when an infectious droplet contaminates a fomite (the surface on which it lands) and is then spread by the hand of someone who touches it.[897]

A study of the Toronto outbreak looking at environmental contamination in SARS outbreak units detected SARS on frequently touched surfaces in rooms occupied by patients with SARS (including a bed table and television remote control) and in a nurses' station used by staff (on a medication refrigerator door).[898] SARS has been found to remain stable for 24 to 48 hours in urine, 36 hours on plastic surfaces, 72 hours on stainless steel and 96 hours on glass surfaces.[899]

Droplet transmission, the primary mechanism for the spread of SARS, occurs when large droplets are transmitted to a paramedic, nurse, doctor, visitor or family member from an infected person's respiratory tract by coughing, sneezing or even normal breathing.[900] They are too small to see but are heavy enough to fall quickly to the ground and can be breathed in by someone in close proximity to the infectious person. Close personal contact is thus required for droplet transmission.

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[896] Healthcare Health and Safety Association of Ontario, *Respiratory Protection Programs*, 2nd edition, p. 1.

[897] Fomites have been defined as "objects, such as clothing, towels, and utensils that possibly harbor a disease agent and are capable of transmitting it" (U.S. Army Medical Research Institute of Infectious Diseases, *Medical Management of Biological Casualties Handbook*, 4th edition: U.S. Army Medical Research Institute of Infectious Diseases, 2001], p. A-5; and as "articles that convey infection to others because they have been contaminated by pathogenic organisms. Examples include handkerchief, drinking glass, door handle, clothing and toys." Last, John M. Last, *A Dictionary of Epidemiology*, p. 72.

[898] T.F. Booth, B. Kournikakis, N. Bastien, et al., "Detection of airborne severe acute respiratory syndrome (SARS) coronavirus and environmental contamination in SARS outbreak units," *Journal of Infectious Diseases* 191 (2005):1472-77 (Booth et al, "Detection of airborne severe acute respiratory syndrome (SARS)).

[899] World Health Organization, *Consensus Document on the Epidemiology of Severe Acute Respiratory Distress Syndrome* (Geneva: WHO, 2003), p.29.

At the smallest end of the scale are droplet nuclei, so tiny and light that, depending on the conditions, it is thought that they can remain suspended in the air for several hours,[901] and can also:

> travel considerable distances in the air and may be readily inhaled into the lung.[902]

In some cases, it is believed that large droplets can themselves become droplet nuclei:

> Larger droplets that are dispersed into fairly dry air can actually begin to "dry out" and become droplet nuclei.[903]

Diseases spread by droplet nuclei or evaporated droplets are generally considered to infect others through airborne transmission.

Airborne transmission, associated with diseases like measles, chickenpox and smallpox, occurs when droplet nuclei or evaporated droplets from an infected person remain suspended in the air. These nuclei or droplets may remain in the air for a long time and may also travel through the air to be inhaled a distance away by someone who had no contact with the infected person.[904]

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[900] "Droplets are ejected from the respiratory tract during coughing, shouting, sneezing, talking, and normal breathing. The size and number of droplets produced is dependant on which of these methods generated the particles" (Dr. Annalee Yassi and Dr. Elizabeth Bryce, *Protecting the Faces of Health Workers: Knowledge Gaps and Research Priorities for Effective Protection Against Occupationally-Acquired Respiratory Infectious Diseases*" [Occupational Health and Safety Agency for Healthcare in BC, April 30, 2004], p. 5.

[901] Yassi et al, "Research Gaps in Protecting Health Workers from SARS".

[902] Yassi et al. "Research Gaps in Protecting Health Workers from SARS".

[903] Healthcare Health and Safety Association of Ontario, *Respiratory Protection Programs*, 2nd edition, 2005), p. 2.

[904] "Airborne transmission: occurs by dissemination of either airborne droplet nuclei or evaporated droplets (sub micron particles) containing microorganisms that remain suspended in the air for long periods of time. These microorganisms can be widely dispersed by air currents and may be inhaled by persons even when standing a distance away from the source patient" Infection Control Standards Task Force, *Final Report* [Toronto: Infection Control Standards Task Force, December 2003], p. 5.

Research has shown that most viruses are spread through large droplets, only a few through airborne transmission:

> … most viruses which cause respiratory and gastrointestinal disease in humans, must be contained in large droplets … in order to survive outside the body and transmit disease from person-to-person. This includes such common respiratory pathogens as influenza, respiratory syncytial virus (RSV) parainfluenza viruses, the common coronaviruses and others. The notable exceptions are measles, varicella zoster virus (chickenpox) and smallpox[,] which apparently can survive in small diameter droplets or droplet nuclei and can be transmitted by air over long distances.[905]

Although believed to be spread mostly by large droplets, SARS is also transmitted when the droplets become aerosolized through medical procedures like intubation, bronchoscopy[906] or a type of assisted ventilation known as a BiPap, or bilevel positive airway pressure device.[907]

All these procedures and treatments were used during the SARS outbreak. Almost a quarter of SARS patients were intubated, a procedure that places a tube into the windpipe or trachea to open the airway for oxygen, medication or anesthesia. Because these aerosolizing events were so common in the treatment of SARS, it defies the evidence to dismiss it as simply a droplet-spread disease.

Some scientists say that a mere cough or sneeze can produce airborne viral particles. Dr. Annalee Yassi, one of the country's foremost occupational medical experts, said researchers now know that there is always an airborne component of a cough or a sneeze. A cough or a sneeze never produces just large droplets. She told the Commission:

> There is unquestionably some airborne spread even if it's only when people are coughing or sneezing, never mind nebulized and ventilated

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[905] Protecting the Faces of Health Workers, p. 16.

[906] "Bronchoscopy is a test to view the airways and diagnose lung disease. It may also be used during the treatment of some lung conditions" (*MedLine Plus Medical Encyclopedia*, http://www.nlm.nih.gov/medlineplus/ency/article/003857.htm).

[907] "Bilevel positive airway pressure (BiPAP) delivers a higher pressure on inspiration, helping the patient obtain a full breath, and a low pressure on expiration, allowing the patient to exhale easily. BiPAP is a common choice for neuromuscular disease" *Gale Encyclopedia of Surgery*, http://www.answers.com/topic/mechanical-ventilation.

> and so on. It's always never purely droplet spread. It's droplet spread that's at least aerosolized in certain circumstances.

The jury is still out on the extent of airborne SARS. A strong current of scientific opinion suggests that the distinction between airborne and droplet transmission is not as clear-cut as some insisted during SARS. A recent study co-written by Dr. Allison McGeer of Mount Sinai concluded:

> Accumulating evidence suggests that the distinction between droplet and airborne transmission may not be as clear-cut as previously thought.[908]

The Centers for Disease Control (CDC) agrees that airborne transmission of SARS cannot be ruled out and that N95 respirators should be used:

> The transmission of SARS appears to occur predominantly by direct contact with infectious material, including dispersal of large respiratory droplets. However, it is also possible that SARS can be spread through the airborne route. Accordingly, CDC has recommended the use of N95 respirators, consistent with respiratory protection for airborne diseases, such as tuberculosis.[909]

The WHO takes the same position, that the risk of airborne transmission requires the use of the N95:

> In view of the possibility of airborne transmission, current guidelines issued by the Centers for Disease Control and Prevention (CDC) and the World Health Organization (WHO) state that health workers should wear N95 masks or higher-level protection during all contact with suspected SARS patients.[910]

A Health Canada December 2003 draft agreed with the CDC and WHO, although reluctantly, because it resisted the evidence of airborne transmission:

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[908] Matthew P. Muller and Allison McGeer, "Febrile respiratory illness in the intensive care unit setting: an infection control perspective," *Current Opinion on Critical Care* 12 (2006):37–42.

[909] Centes for Disease Control, *Interim Domestic Guidance on the Use of Respirators to Prevent Transmission of SARS* (Atlanta: CDC, May 3, 2005).

[910] Derrick et al., "Protecting healthcare staff from severe acute respiratory syndrome: filtration capacity of multiple surgical masks," *Journal of Hospital Infection* 59 (2005): 365–68.

> Currently, N95 respirators or equivalent are recommended by Health Canada, WHO and the CDC for the care of SARS patients even though the evidence shows that SARS is spread by droplet transmission.[911]

Since SARS, a considerable body of research and scientific opinion suggests it was wise to take a cautious approach and require the N95 respirator.

As one CDC expert told the Commission, in a hospital you never know when one of those aerosol-generated events will happen. That is one of the reasons why the CDC recommends routine airborne protection for SARS:

> But in health care facilities, when you have people in, you just don't know sometimes when you're going to have an aerosol-generating procedure happen, and it could happen precipitously. And because of those issues and because of issues like this, we're going to continue to recommend airborne precautions.

Experts who opposed the use of the N95 and fit testing argued that because SARS is largely droplet-spread, the level of respiratory protection didn't matter, as long as health workers wore some kind of respiratory device. Even a surgical mask would do.[912]

It is not contested that a great deal of evidence points to the fact that SARS is usually spread by large respiratory droplets. The important word here is "usually." Highly contagious viruses spread by smaller aerosols have high reproduction numbers, or R0.[913] Measles has an R0 of 15. Experts expect that a person with measles could pass the disease to roughly 15 others at the start of an outbreak in the absence of prevention measures. SARS's R0 was about 3. A person with SARS could on average pass the disease to roughly three others at the start of an outbreak in the absence of prevention measures. There were, however, enough super-spreaders, people with a very high viral load who could spread SARS to more than 20 people in some cases, and super-spreading events like intubations, to prove that every case was not average and many were not.

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[911] Health Canada, "Infection Control Precautions for Respiratory Infections Transmitted by Large Droplet and Contact Infection Control Guidance If There Is a SARS Outbreak Anywhere in the World, When an Individual Presents to a Healthcare Institution with a Respiratory Infection" (Ottawa: Health Canada, December 17, 2003).

[912] SARS Commission Public Hearings, September 29, 2003.

[913] The average number of people an infected person can be expected to pass the disease to at the start of an outbreak in the absence of prevention measures.

The WHO consensus document on SARS said:

> A basic reproduction number (R0) of approximately 3 is consistent with a disease spread by direct contact or larger virus-laden droplets that travel only a few meters rather than by lighter airborne particles. By contrast, if a disease is transmitted by aerosols, a single person can infect an entire room by coughing, as can happen with measles and influenza.[914]

On the worker safety side of the droplet vs. airborne transmission debate were those who took a more cautious approach. Yes, said experts who took this position, all signs point to the fact that SARS is usually spread by large droplets, but we don't know enough about the disease to rule out airborne transmission. With this uncertainty, they suggested, let's be cautious and use the N95.

The two sides were balanced well in the Naylor Report. First:

> Given that SARS was being spread primarily via droplets, some informants questioned whether N95 masks were necessary.[915]

But then:

> Others stressed that the disease should be treated as airborne until more information was available.[916]

A leader in the effort to contain SARS in Ontario told the Commission that, despite evidence that SARS was mostly spread by large droplets, he still supported a precautionary approach and the use of N95 respirators:

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[914] WHO, *Consensus Document on the Epidemiology of SevereAacute Respiratory Syndrome (SARS)*, p. 12.

[915] Naylor Report, p. 30.

[916] Naylor Report, p. 30. The full quotation reads as follows:

> A controversial directive was the requirement that health care workers wear fit tested N95 masks. Neither the fit testing (a complex operation requiring a subject to try various mask designs while a bitter-tasting gas circulates underneath a hood), nor the appropriateness of the N95 standard itself had been fully discussed by the SAC. Given that SARS was being spread primarily via droplets, some informants questioned whether N95 masks were necessary. Others stressed that the disease should be treated as airborne until more information was available.

> There isn't enough data reported yet from the SARS outbreaks to really know. There's been some literature published to suggest that an N95 is no more effective with a SARS patient. Let's for argument's sake say, for a regular SARS patient not requiring a high-risk procedure, then a properly worn surgical mask [would be fine], and intuitively if it's droplet, that should be the case.
>
> I'm not comfortable with that yet and I'm not sure why. Maybe it's because my colleagues got sick. Maybe it's because I know the backlash from the providers and the unions. I'd rather from a strategic point of view say let's just keep doing this until all the evidence is in, that we're able to evaluate it properly and then we can back off. I'd rather … than say maybe we were wrong this time, let's go back to the N95.

Three years after the outbreak, one physician who caught SARS and strongly supports the use of N95 respirators told the Commission that we still don't know enough about SARS:

> I mean there are still people who say they were just droplets and even surgical masks should stop the droplets. I am not sure how they got sick then. So it could be that there are things about SARS we don't know.

It was largely on the basis of Toronto's Sunnybrook disaster on April 13, when nine health workers caught SARS, that the CDC decided in favour of the precautionary approach and opted for airborne precautions.

One CDC expert told the Commission:

> And it's largely because of this event here, the Toronto cluster – not only this event though: there's also clusters in Hong Kong and elsewhere where people have been wearing droplet-level precautions and still gotten sick.
>
> Now, it's usually an aerosol-generating infection as far as I'm aware. It's always associated with some aerosol-generating procedure of some type. And in Hong Kong, it was the use of aerosized nebulized bronchodilator therapy medications and a bunch of medical students all got sick who were wearing masks.

> When you look at the R0, it suggests it's probably not airborne, it's not airborne in the same sense as measles or anything like that. And when you look at epidemiologic links, people down the hallway, around the corner, they're not getting sick. But, in health care facilities, when you have people in, you just don't know sometimes when you're going to have an aerosol-generating procedure happen, and it could happen precipitously. And because of those issues and because of issues like this, we're going to continue to recommend airborne precautions.

Nothing brings home the point of airborne SARS risk better than the May 28 disaster at North York General, when workers caught SARS despite their use of the personal protective precautions they were told would keep them safe. As late as May 28, the lesson of airborne risk had not been learned. A scientific study of the incident said:

> In this case, just as in previous cases, either contact, droplet, or airborne transmission might have occurred.[917]

The CDC reported this incident in its journal *Emerging Infectious Diseases*. The authors,[918] some of them well-known figures in the SARS outbreak, concluded that the mechanism of transmission of the virus from patient to worker could have been airborne rather than droplet:

> Two explanations may account for the transmission observed in this case: 1) an unrecognized breach in contact and droplet precautions occurred, or 2) an airborne viral load was great enough to overwhelm the protection offered by droplet precautions, including non–fit tested N95 disposable respirators. If the last form of transmission was responsible, airborne virus may have been generated by the coughing patient before her cardiopulmonary arrest or due to a "cough-like" force produced by the airway pressures created during asynchronous chest compressions and ventilations using the bag-valve-mask …

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[917] M.D. Christian et al., "Possible SARS coronavirus transmission during cardiopulmonary resuscitation," *Emerging Infectious Diseases*, Vol. 10, No. 2, February 2004 (Christian et al, "Possible SARS Coronavirus Transmission").

[918] Michael D. Christian, Mona Loutfy, Clifford McDonald, Kenneth F. Martinez, Mariana Ofner, Tom Wong, Tamara Wallington, Wayne L.Gold, Barbara Mederski, Karen Green, and Donald E. Low.

> The final line of protection against occupational exposure is protection equipment. The use of N95 respirators offers a level of protection against airborne transmission of SARS. However, for any form of respiratory protection to perform at the level of its full potential, it must be properly fitted to provide an adequate seal. The N95 disposable respirators used by health workers in this instance were not fit tested to ensure an adequate seal. Thus the exact level of protection afforded by the N95 respirators for each person in this case is unknown. Nonetheless, a higher level of respiratory protection should be considered in environments with a potentially very high SARS-CoV load, *such as* that associated with aerosol-generating procedures. [emphasis added][919]

Nothing could show better the scientific reasons for the N95 and for fit testing.

The body of evidence and scientific opinion about airborne SARS is too extensive to discuss in detail here. Reference is made below to evidence that the original transmission of SARS in the Metropole Hotel on February 21, 2003, to Toronto's index case and at least 15 others that may have been airborne,[920] to disasters in other countries (like Amoy Gardens in Hong Kong) and to evidence of airborne SARS in a Toronto hospital.

Because of this risk of airborne transmission, Ontario during SARS required workers with close patient contact and sometimes those in other areas of hospital to wear fitted N95 respirators to protect against the risk.

In the context of this risk, the following issues arise:

- N95 respirators and surgical masks
- Ministry of Labour approval
- SARS decision to require N95s
- Confusing directives during SARS
- Failure to train
- Ministry of Labour sidelined
- Confusion: N95 "equivalent"

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919. Christian et al, "Possible SARS Coronavirus Transmission".

920. WHO, *SARS: How a Global Epidemic Was Stopped* (Geneva: WHO, 2006), p. 8.

- Was the N95 necessary?
- Was fit testing necessary?

The Difference Between an N95 Respirator and a Surgical Mask

While surgical masks[921] and their lower-standard cousins, procedure masks,[922] have long been used to safeguard health workers, they were originally intended primarily to protect patients.

One study said:

> Surgical masks were developed to prevent the wearer's exhaled secretions from contaminating the operative field.[923]

Surgical masks, which must meet far less stringent regulatory standards than respirators,[924] are believed to offer the wearer some protection.[925] But this protection is limited because a surgical mask doesn't create a tight seal around the mouth and nose of the wearer and always leaves gaps. As one study of respiratory protection explained:

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[921] "Surgical masks … are of two main types: (1) flat-pleated or duck-billed in shape, conforming to the bridge of the nose with a flexible piece, affixed to the head with two ties and (2) pre-molded conforming to the bridge of the nose with a flexible piece, adhering to the head with a single elastic" National Academy of Sciences, *Reusability of Face Masks During an Influenza Pandemic* [Washington, DC: National Academy of Sciences, April 2006], p. 16).

[922] "Procedure masks are flat/pleated or duck-billed in shape and fasten to the head with ear loops. All procedure masks have some degree of fluid resistance, but they are not required to meet the same standards as surgical masks" (National Academy of Sciences, *Reusability of Face Masks During an Influenza Pandemic*, p. 16).

[923] Yassi et al, "Research Gaps in Protecting Health Workers from SARS".

[924] The regulatory approval for surgical masks is far less stringent than that of independently certificated N95 respirators There are no minimum standards or standardized testing methods for surgical mask filter efficiency. (WHO, *Avian Influenza, including Influenza A (H5N1), in Humans: WHO Interim Infection Control Guideline for Healthcare Facilities*" [Geneva: WHO, February 9, 2006], p. 41).

The U.S. Food and Drug Administration, in approving surgical masks for sale, does not address the fit of the mask, or its effectiveness:

> Food and Drug Administration's regulatory requirements do not address the fit of medical masks, which can make the total filtration efficiency of questionable value. Masks approved by the FDA for medical use are designed to be worn by an infected person, health worker or member of the public to reduce transfer of body fluids that may spread infection. (National Academy of Sciences, *Reusability of Face Masks During an Influenza Pandemic*, p. 32).

> The device is placed over the nose and mouth and held in place by straps placed behind the ears or around the head but more usually around the back of the head and neck. The device fits fairly loosely and a tight seal is not feasible where the outside edge of the mask meets the skin of the face. Most users in the healthcare industry tend to wear surgical masks rather loosely; considerable gaps are usually observed at the peripheral edges of the surgical mask along the cheeks, around the bridge of the nose and along the bottom edge of the mask below the chin.[926]

The problem with a surgical mask is that not all the air breathed in by a health worker passes through a surgical mask's filtering materials, regardless of the filtering quality of those materials. A recent study by the Institute of Medicine of the National Academies, whose authors included Dr. Allison McGeer of Toronto's Mount Sinai Hospital, said:

> The loose fit of most medical masks [i.e., surgical and procedure masks] leaves gaps that could allow substantial contaminant leakage into and from the mask … Medical masks may be used as barriers against disease transmission by fluids, especially blood, and some large droplets, and they are designed to prevent release to the environment of large droplets generated by the wearer. They are not designed or approved for the

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Standard surgical masks are considered a Class II device by the US federal Food and Drug Administration (FDA) which require pre-market sales approval. This means that to obtain approval as an item for sale, the manufacturer must demonstrate to the satisfaction of the FDA that the new device is substantially equivalent to similar masks currently on the market. There is no specific requirement to prove that the existing masks are effective and there is no standard test or set of data required supporting the assertion of equivalence. Nor does the FDA conduct or sponsor testing of surgical masks. Yassi and Bryce, *Protecting the Faces of Health Workers*, p. 17).

[925] Health Canada's *Routine Practices and Additional Precautions for Preventing the Transmission of Infection in Healthcare* says: "Masks are also worn to protect the HCW from acquisition of infections transmitted by large droplets. Surgical masks are considered adequate for this purpose. It appears logical to use a mask when within 1 metre of a coughing patient" (Vol. 25S4, July 1999, p. 27).

[926] Yassi et al, "Research Gaps in Protecting Health Workers from SARS".

> purpose of protecting the wearer against entry of infectious aerosolized particles potentially surrounding the wearer and his mask.[927]

A Toronto physician who was involved in treating SARS patients said:

> The trouble with ordinary surgical masks are you lick them and you stick your nose in them and they have big holes in the outside part and so forth. Let's face it, they're a joke. But surgeons use them to this very day. They're cheap and they're comfortable. We still use them. Surgical masks protect mainly the patient.

Studies have shown that surgical masks, because of their inability to create a tight seal, are less effective against smaller droplets and droplet nuclei than N95 respirators. Even wearing as many as five surgical masks does not raise their ability to filter out smaller airborne particles to the level of an N95 respirator.[928]

Designed to create a tight seal around the mouth and nose of the wearer, an N95 respirator provides a far higher level of protection to the wearer than surgical masks. Respirators rely:

> on the breathing action of the user to draw air through the filtering medium. On inhalation a negative pressure is created as the air is drawn through the medium. Respirators of this type are considered tight fitting because they rely on a good seal between the user's face and the respirator itself in order to work properly.[929]

As one U.S. expert explained to the Commission, masks and respirators are designed for different purposes:

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[927] National Academy of Sciences, *Reusability of Face Masks During an Influenza Pandemic*, p. 32.

[928] A recent study that examined whether wearing as many as five surgical masks was sufficient protection from the SARS virus concluded: "Our data confirm previous findings that the filtration of submicron-sized airborne particles by a single surgical mask is minimal ... Although greater filtration was afforded by multiple masks, with an approximate doubling in the filtration factor when five masks were worn compared with a single mask, the absolute filtration factor remained low and well below the minimum fit factor of 100 required for a respirator" Derrick et al., "Protecting healthcare staff from severe acute respiratory syndrome," 365–68).

[929] Healthcare Health and Safety Association of Ontario, *Respiratory Protection Programs*, 2nd Edition, p. 11.

> Masks are meant to protect something else, e.g., a surgical field, or someone else from getting whatever the wearer of the mask may have. They are not designed to protect the wearer of the mask from whatever is floating around in the air. Respirators, on the other hand, are designed to protect the wearer and that's one of the reasons why they need to be form-fitted.

Ministry of Labour Approval

The N95 is part of a family of nine respirators introduced in July 1995 under a new NIOSH standard known as 42 CFR Part 84.[930]

NIOSH, the National Institute for Occupational Safety and Health, is part of the Centers for Disease Control and Prevention, the U.S. agency responsible for worker safety research, standards, evaluation and education.

Because there is no Canadian agency that tests and certifies respirators, the Ministry of Labour, in regulating workplace safety, often relies on NIOSH. A ministry official said this was the case with NIOSH's new respirator standards:

> And we essentially accepted these new [NIOSH respirator] approvals and – and we basically said these are the respirators that we want to see used.

The ministry began to phase in the new standards in 1995. The phase-in period expired in May 1999, after which only new NIOSH-tested respirators would be approved for use. As the phase-in period was expiring, the Ministry of Labour advised:

> It is Ministry of Labour policy to continue to accept both the new approved respirators under Part 84 and the old respirators for dusts, mists and fumes, approved under the old Part 11, up until May 10, 1999, as long as the old respirators are in good physical condition and are appropriate for the type and concentration of an airborne contaminant.

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[930] National Institute for Occupational Health and Safety, "NIOSH change will save healthcare industry millions," news release, August 25, 1995.

> After May 10, 1999, Inspectors will issue orders under clause 25(2)(h) of the *Occupational Health and Safety Act* to require the new respirators or filters.[931]

Clause 25(2)(h) of the Act requires that an employer:

> take every precaution reasonable in the circumstances for the protection of a worker.

This change in the ministry's respirator standards was also reflected in the Policy and Procedures Manual of the ministry's Operations Division. Section 10.17 of the manual, dated April 1, 2000, said:

> In issuing orders for new non-powered air purifying filter/respirators the following wording is suggested:
>
> "Pursuant to section 25(2)(h) of the OSHA, the employer shall ensure that respirators used in the workplace meet the current standards to ensure the workers wearing air purifying particulate respirators for exposure (i.e. state hazard i.e., asbestos, welding fume, lead, silica, etc.) in the (state area or location) are adequately protected."
>
> The narrative of the report can provide explanatory material such as:
>
> "It is a reasonable precaution to provide respirators approved to the new NIOSH standard referred to as 42 CFR 84 since these new filters are tested to new and more demanding testing requirements than those tested under the old NIOSH approval system. The new testing provides better evidence of the filters' ability to remove airborne particulates and thus the workers will receive better protection from the particulates."

Before SARS, N95 respirators were not widely used in most Toronto hospitals. Some did stock N95 respirators for use in treating tuberculosis patients. At some other hospitals, however, health workers treating TB cases used respirators that the hospitals felt were equivalent to an N95 even though they were not independently tested and certified. (The issue of equivalency is discussed below.)

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[931] Ontario Ministry of Labour, "Ministry updates respirator policy for NIOSH approved particulate respirators," January 18, 1999.

Regardless of what type of respirator their hospitals stocked, most health workers interviewed by the Commission said that before SARS they had never seen an N95 respirator, had never used one and had not been trained in its use either at school or on the job.

The Decision to Require N95s

On the evening of March 26, just hours after the provincial emergency was declared, a critical meeting was held at the Provincial Operations Centre (POC). With the outbreak gathering momentum, the men and women who led the fight against SARS decided what measures, including respiratory protection, were needed to contain the new disease.

The atmosphere among the attendees, who included Drs. Jim Young, Colin D'Cunha and Sheela Basrur, was understandably tense. One participant recalled the mounting concern over the worsening situation:

> I got paged late Wednesday night and asked if I would come down to the emergency centre because they were going to, now the province was involved. People were very upset that things, we were hearing stories now not only about people coming back to Scarborough Grace Hospital unwell but people were arriving in other emergency departments around the city sick, so it was no longer confined to Scarborough Grace Hospital but now patients were showing up at Scarborough General, at North York, at Centenary, and so things were kind of … we did not have a handle on what was going on.

SARS was spreading so fast that it overwhelmed efforts to trace the contacts of SARS patients and find out where the infection was coming from and where it was going. No one knew how far it had spread in Toronto. No one knew where it was spreading. Dr. Don Low said:

> We recognized that we had lost control, that we were not able to identify patients.[932]

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[932] Interview with Dr. Donald Low in *Biosecurity and Bioterrorism: Biodefense Strategy, Practice, and Science* 2 (2004) (Dr. Low – Biosecurity and Bioterrorism Interview).

Amid this uncertainty, it was clearly evident from the devastating outbreak at Scarborough Grace that health workers were terribly vulnerable to the new disease and that the health care system had failed thus far to protect them.

As Table 2 below indicates, of the initial 128 SARS cases at Scarborough Grace, 47, or 37 per cent, were staff at the hospital, and seven, or 6 per cent, were non-hospital health workers, including EMS personnel. At least eight members of health workers' households were also infected. The disturbing bottom line: of the 128 cases, 62, or 48 per cent, were either staff at the hospital, other health care workers or members of health workers' households.[933]

Table 2 – SARS Cases at Scarborough Grace Hospital[934]

Contact Setting	Number	Percentage of Total Cases (128)
Hospital – Staff	47	18%
Patients	18	37%
Visitors	14	14%
Other health workers	7	6%
Close contacts	38	30%
Total number of health workers and members of their households	62	48%

If health workers were this vulnerable, no one appeared to be safe.

The fact that SARS had infected so many health workers led those trying to contain the Scarborough Grace outbreak to conclude that more protection was needed. Heightened precautions implemented at Scarborough Grace in late March included the requirement that all health workers use N95 respirators:

> Following the initial investigation, contact and droplet precautions were implemented for all patients in ICU on March 22, and the ICU and

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[933] Varia et al., "Investigation of a nosocomial outbreak of (SARS)"

[934] Varia et al., "Investigation of a nosocomial outbreak of (SARS)"

> emergency department were closed on March 23. On March 24, following the identification of staff and patient cases not linked to the ICU or emergency department, the hospital was closed to admissions, outpatient clinics were closed, and discharged patients were placed into quarantine at home for 10 days. Along with an increased emphasis on hand-washing, additional precautions, including the use of gowns, gloves, N95 or equivalent masks, and eye protection, were implemented for all patient care, and single or negative-pressure rooms were used for all febrile patients. Dedicated equipment was used for all patients, and patients were restricted to their rooms except for medically necessary tests. Staff wore N95 masks at all times in the hospital.[935]

In the face of a new, unknown disease, and mindful of the experience of Scarborough Grace, provincial officials decided on March 26 that affected health workers outside of Scarborough Grace also needed the higher protection of N95 respirators.

Dr. James Young told the SARS Commission public hearings that the decision was taken from a precautionary approach:

> We chose, for means of protection, to use the N95 mask. We believed from the beginning that it was droplet-spread, but we believed, until we were more certain, that we should use the more protective N95 mask.[936]

One expert told the Commission that officials decided to err on the side of caution:

> Even then we started talking N95. If I remember correctly that Wednesday night, we started because we did not know how this thing was transmitted and we assumed the worst, which is the right thing to do, and that's why N95s. Either that night or the next, the decision was made to buy every N95 in North America. We bought out the market by the weekend.

Dr. Low said:

> In the early days, that's what kept me awake at night: the thought that we would always be remembered as the epicentre for a new endemic disease

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[935] Varia et al., "Investigation of a nosocomial outbreak of SARS"
[936] SARS Commission Public Hearings, September 3, 2003.

> which eventually would find its way across North America. But early on, we didn't know how it was transmitted. We couldn't say that it wasn't airborne-transmitted. And therefore we assumed the worst and made the decision. We were going to require that everybody in the city wear an N95 mask in a health care facility.[937]

N95s Were Hard to Wear

It quickly became evident that health workers would have a difficult time doing their jobs while using an N95.

Respirators were uncomfortable to wear, restricted human interaction (an important part of patient care) and added significantly to health workers' workloads. One study of the experience of health workers during SARS said:

> Wearing a mask was the precaution most frequently cited as most bothersome ... The most commonly cited difficulty with the mask was physical discomfort (92.9% [1588/1710] of respondents).[938]

The ONA survey found:

> Over 70% of respondents experienced some side effects from the use of PPE [personal protective equipment], including: headaches, shortness of breath, facial rash, fatigue, dizziness, and others.[939]

The ONA and OPSEU told the Commission public hearings that wearing N95 respirators for a long time caused fatigue, probably because of reduced oxygen intake.

One health worker told the Commission:

> We had it on for our whole 12-hour shift, right? We changed our masks, our gloves, our gowns, everything, but you were donned, except on break time, in this, and the thirst and the fatigue was phenomenal that we went

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[937] Dr. Low Biosecurity and Bioterrorism Interview.

[938] L. Nickell et al., "Psychosocial effect of SARS on hospital staff: survey of a large tertiary institution," *CMAJ* 170 (2004): 793-98.

[939] Hay Group, "Nurses' Perspective on the Outbreak of SARS in Toronto" (March 2006), p. 10.

> through. We were so tired and so listless.

Another health worker said:

Question:	So it was very hot?
Answer:	It was very uncomfortable and I remember we had a cardiac arrest and I ended up being the one that was doing the chest compressions and I had never been so hot in my entire life, thinking, how did I manage to get this job?

A third health worker simply said:

> I was very uncomfortable in it – you can't breathe through these fibre-glassy things.

The ONA and OPSEU told the Commission public hearings that pregnant workers especially noted fatigue because their breathing was already restricted by the pressure from the growing fetus:

> The mask restricts breathing and increased carbon dioxide levels. The mask restricts successful exhalation because, as you exhale, the air containing carbon dioxide is trapped in the mask and then you breathe it in again.[940]

The Registered Nurses Association of Ontario told the Commission:

> Nurses complained about a constant burning irritation of the throat, tightness in the upper chest, headaches, allergic skin reactions, swollen lips and tongue, dizziness, lethargy, sleep disorders and the exacerbation of other health problems such as asthma. Some nurses reported that they could taste and feel the fibres from the mask and were concerned about long-term implications of prolonged mask use.[941]

During and after SARS, some experts in and out of government used the discomfort of wearing an N95 as an argument against a precautionary approach.

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[940] SARS Commission Public Hearings, November 17, 2003.
[941] SARS Commission Public Hearings, November 17, 2003.

In the words of one health workers' union, these experts argued that "personal protective equipment is uncomfortable and difficult to put on" and that this was a reason not to use respirators. Representatives of health workers say their members accept the discomforts of wearing N95 respirators if it means they are protected. As one union stated:

> A day in the life of a health care worker is replete with all varieties of discomfort. While health care workers (like all workers) would prefer not to wear respirators, they are prepared to adjust to discomfort when necessary to make the very air they breathe safe for themselves and safe to pass on to patients and family. Firefighters, steelworkers, chemical workers and others have for decades routinely crouched in cramped, confined spaces for hours at a time, dragged down by much heavier respiratory protection than the N95 respirators ... Given information and training about hazards and the need for respiratory protection, all workers tolerate the discomfort.[942]

It is hard to argue with the union's point of view.

N95 Respirators and POC Directives

Comfortable to wear or not, the N95 respirator, with its recognizable, face-hugging shape and its frequent media use to illustrate the outbreak, came to symbolize the battle to contain SARS.

For health workers, along with being the source of much discomfort, the N95 respirator was also the subject of a great deal of confusion over who should wear an N95, where it should be worn and how it should be properly used.

Unclear directives were a significant cause of this uncertainty.

Issued by the POC, directives were meant to ensure that measures to contain the outbreak were based on the best expert advice and were consistently applied. While there is no doubt that directives on N95 respirators were at times confusing, those who prepared the directives made a remarkable effort under pressure. From a standing

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942. ONA letter to Premier McGuinty, December 15, 2005.

start they helped to create a system that in the end stopped SARS. The wonder is not that there were problems with the directives. The wonder is that these dedicated men and women were able to produce from nothing a system that did the job.

When the March 26 decision was made to mandate the use of N95 respirators, for example, experts like Dr. Low stayed up late into the night to craft appropriate directives. Dr. Low recalled:

> That night we sat down and came up with policies and procedures that we sent to all the hospitals the next morning.[943]

Directives on N95 respirators were at times confusing because of the massive systemic weaknesses that hampered efforts and capabilities. Those preparing the directives did the best they could under difficult circumstances with insufficient resources, infrastructure and planning. One expert involved in preparing directives recalled:

> Whatever information we had, we then issued new orders and directives as to how we thought hospitals should react. And the kinds of questions that were thrown at us, when the volume I likened to taking a shower in Niagara Falls. It was colossal, and we had to set rules as to how many people were allowed in to interrupt us … We were so short of infectious disease human intellectual resources, that the people who were in Toronto were either quarantined or were themselves struggling with maintaining their own hospitals.

Regardless of the reasons for the directives' failings, reality is that on many occasions the directives did not provide sufficient advice to health workers, their supervisors or their employers.

Consider the first hospital directive issued by the POC on March 27. It required only staff in emergency departments and clinics to wear N95 respirators:

> All staff in GTA [Greater Toronto Area] and Simcoe County hospital emergency departments and clinics to wear protective clothing (gloves, gown, eye protection and mask – N95 or equivalent).

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[943] 943. Dr. Low Biosecurity and Bioterrorism Interview.

Yet, as ONA and OPSEU noted in their joint submission to the SARS Commission, workers in the rest of the hospital were not required to take any special precautions:

> This distinction between what protection was recommended for which groups of workers in the same facilities arose again and again throughout the crisis. Both unions were constantly trying to establish which areas were required to wear what personal protective equipment (PPE) and why.[944]

Problems with the March 27 directives appeared to have been addressed in the next few days, when two new directives extended the use of respirators to all health workers in affected facilities. On March 29, 2003, a POC directive to acute care hospitals in the GTA and Simcoe County required the wearing of an N95 respirator or equivalent by "all staff when in any part of the hospital," "for hospital staff who are required to visit a patient care unit" and "for direct patient contact." And on March 31, 2003, the requirement was extended to long-term care facilities in a directive that said:

> All GTA/Simcoe County staff must invoke gown, glove, N95 mask (or equivalent), and eye protection precautions and cohort nursing protocols, whether or not they have identified possible SARS patients.

In a matter of days, new directives had a different message.

Directives on April 1, 2003, and April 3, 2003, appeared to require health workers to wear N95 respirators only in SARS patients' rooms and for direct contact with any patient in intensive/critical care units or emergency departments.

ONA and OPSEU noted in their joint submission to the SARS Commission:

> One example of such a change is found in two consecutive Directives for Acute Hospitals. The March 29 Directive for All Acute Hospitals in the GTA/Simcoe County required that "All staff when in any part of the hospital … Use an N95 (or equivalent) mask (ensure mask is fit tested)." The April 1 and 3, 2003 Directives to All Ontario Acute Care Hospitals (which replaced the March 29 Directive above, and others) required staff to wear an N95 mask in SARS patients' rooms, and for direct

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[944] OPSEU/ONA Joint Report on Health & Safety Matters Arising from SARS, November 2003, pp. 4-5 (ONA/OPSEU Joint Report).

> contact with any patient in Intensive/Critical Care Units or Emergency Departments.[945]

The April 1, 2003, POC directive to all Ontario acute care hospitals said:

> All HCWs and staff entering the room of a SARS patient in ANY location …
>
> Use an N95 mask
>
> —
>
> For direct contact with any patient in Intensive/Critical Care Units or Emergency Departments HCWs must …
>
> Use an N95 mask
>
> —
>
> Patients with suspected or probable SARS must be placed in single isolation rooms, or cohorted with other SARS patients and treated using contact, and respiratory precautions. N95 masks, or equivalent, must be worn by anyone entering the room.

The April 3, 2003, POC directive to all Ontario acute care hospitals said:

> All HCWs and staff entering the room of a SARS patient in ANY location …
>
> Use an N95 mask
>
> —
>
> For direct contact with any patient in Intensive/Critical Care Units or Emergency Departments HCWs must …

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[945] OPSEU/ONA Joint Report, p. 8.

> Use an N95 mask
>
> —
>
> Patients with suspected or probable SARS must be placed in single isolation rooms, or cohorted with other SARS patients and treated using contact, and respiratory precautions. N95 masks, or equivalent, must be worn by anyone entering the room.

Health workers undoubtedly felt like yo-yos, told one thing one day, another the next, by the people who, acting in good faith, were supposed to keep them safe in a dangerous workplace.

The ONA and OPSEU noted in their joint submission that the confusion caused by the directives helped to undermine the confidence of health workers in the system that was supposed to protect them:

> If workers throughout a facility are required to wear certain personal protective equipment (PPE) one day, and the next day only workers in the Emergency department are required to wear this PPE, and there is no explanation or rationale offered, it is difficult to be confident that every precaution is being taken to protect the health of our members.[946]

The uncertainty over who should wear an N95 and where they should wear them was exacerbated by the fact that the N95 was a completely new piece of protective equipment for most health workers.

An Ontario Nurses' Association (ONA) survey of its members[947] found:

> Only 5% of respondents had been fit tested and/or trained and instructed in the care, use and limitations of PPE (personal protective equipment) before SARS.[948]

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[946] OPSEU/ONA Joint Report, pp. 7-8.

[947] The independent Hay Group summarized the survey's results for the Commission. The complete Hay Group report is available in Volume 2 of the Commission's final report.

[948] Hay Group, "Nurses' Perspective on the Outbreak of SARS in Toronto" (March 2006), p. 8.

Since so few health workers had been taught how to properly use this new piece of protective equipment before SARS, health workers and their employers and supervisors were particularly reliant on the guidance of POC directives.

The directives were not only confusing, but during the early part of the outbreak they also lacked sufficient detail. For the first month and a half of the outbreak, the POC directives failed to explain in sufficient detail how to properly apply and remove an N95 respirator.

As the ONA and OPSEU said in their joint submission:

> On April 20, for the first time detailed direction was given on matters such as … procedures such as applying personal protective equipment, removing personal protective equipment …
>
> These directives offer the first concrete evidence that the POC had begun to recognize that employers, supervisors and workers did not understand how to implement the previous Directives. It is surprising that in an acute hospital setting accustomed to caring for patients with infectious diseases, that such detail was necessary.[949]

Directives issued on April 20, 2003, detailed procedures for applying and removing personal protective equipment.[950] Directives issued a few days later, on April 24, 2006, provided more detailed instructions.[951]

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[949] OPSEU/ONA Joint Report, pp. 10-11.

[950] Procedure for removing protective equipment on exit from the room:

While still inside the room:

- Remove gloves
- Remove gown (discard in linen hamper in a manner that minimizes air disturbance)
- Decontaminate hands with alcohol hand wash; do NOT use patient bathroom to wash hands
- Leave room, bag specimens, etc.

After leaving the room:

- Use alcohol hand wash again
- Remove face shield/fluid shield and discard
- Remove N95 mask. Remove hair cover
- Use alcohol hand wash again
- Put on new hair cover, N95 mask and gown
- At least once per hour, wash hands at nearest hand washing sink to remove residue from alcohol hand wash and reduce skin irritation

But by then, more than six weeks into the outbreak, dozens and dozens of health workers and members of their households had already contracted SARS, including two who were to die from it.

Confusing directives hindered the ability of health workers to protect themselves. Confusing directives hindered the ability of their employers and supervisors to know exactly what respiratory protections were needed to protect their employees. And confusing directives undermined the faith of health workers, their employers and their supervisors in the recommendations of those in charge of the fight to contain SARS.

An important lesson from SARS is that during a public health emergency, directives on respirator protective equipment need to be clear and complete. They need to be

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951. Routine procedure for applying personal protective equipment prior to entering patient room:

- Wash hands (do NOT use patient washroom to wash hands)
- Put on a disposable hair cover
- Put on a face shield. Use either a surgical mask with attached face shield ("fluid shield") over the N95 mask or a full-face plastic shield.
- Put on 2 pairs of gloves

While in the patient room:

- Remove first pair of gloves after providing direct patient care
- Keep second pair of gloves on for remainder of stay in the room

Routine Procedure for removing protective equipment on exit from the room:

While still inside the room:

- Specimens to be placed in a clean specimen bag using a two person transfer method
- Remove second pair of gloves
- Remove gown (discard in linen hamper in a manner that minimizes air disturbance)
- Use alcohol hand rinse; do NOT use patient bathroom to wash hands

Just prior to leaving or immediately after leaving the room:

- Use alcohol hand rinse again
- Remove face shield/fluid shield and discard
- Remove N95 mask and discard
- Remove hair cover and discard
- Use alcohol hand rinse again
- Put on new N95 mask or equivalent and gown
- At least once per hour, wash hands at nearest hand washing sink (but NOT in a patient washroom) to remove residue from alcohol hand wash and reduce skin irritation

developed before the emergency strikes and not made up from scratch after it begins. They need to be developed in concert with all workplace parties to ensure that they are accurate, are consistent with worker safety laws and best practices, can be understood and will work.

Lack of Training

It was bad enough that directives, at least during the first part of the outbreak, often lacked sufficiently detailed information. What made things worse was the lack of training.

The ONA members' survey found that 44 per cent of respondents felt that during the SARS outbreak there either was not enough training on the proper use of personal protective equipment or they didn't know.[952]

Many health workers interviewed by the Commission were not taught how to use N95 respirators when first required to use them. Often they were not properly taught until they were fit tested, which typically happened only long after the outbreak.

The following are representative of health workers' comments to the Commission:

Question: And did anybody ever show you how to use it properly? Was there any training?

Answer: No. I just looked at the box and put it on the way the box said to put it on.

—

I really did not receive any formal training on the use of the equipment. You were pretty well [told] there's equipment there, you figure out yourself how to put it on. And certainly the missing piece with me was that I didn't have any formal training in how to remove it properly.

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[952] Hay Group, "Nurses' Perspective on the Outbreak of SARS in Toronto" (March 2006), p. 9.

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Answer: There were no instructions on the memo [provided by the employer] for how to put on an N95 mask. Actually, I didn't know there was a way to put it on until after.

Question: And I guess you didn't know that there was a way to take it off?

Answer: Right. The memos did say in what order to take your gear off, like one set of gloves and then the next, but it didn't say specifically how.

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Question: Were you – at some point were you fitted for your mask?

Answer: Yes, I was.

Question: When was that, in the fall … Was it after the second outbreak, or after the hospital shut down?

Answer: After the hospital shut down.

Question: And prior to your fitting, when you started wearing the N95 mask, did anyone give you training and education on how to properly apply the mask and how to make sure you get a proper seal?

Answer: No

—

But what we didn't have was – the first day [was] anybody [who] taught us how to really put those masks on. So we didn't know whether we were putting them on properly or not.

—

Question: Did you get training on how to properly don the equipment, how to properly remove the equipment, how to properly put your masks on. Did you get any of that in the first part of SARS?

Answer: No.

—

Question: So, you just go in and get a mask and you're expected to figure out how to use it properly and that's the complete extent of the training of the personal protection equipment, really?

Answer: Until, yes.

Question: Until the fit test?

Answer: Well, no. Because I guess somebody shows you once, you start talking to people and they tell you, fit it here and somebody else you work with has been already been shown.

Question: Right. But was there a formal [training] like someone come around that [provided formal instruction]?

Answer: No, there's a little pamphlet that came in the box of them when you got the first ones that basically told you what to do.

—

Question: And had you at that point [i.e., during the SARS outbreak] been given any instructions on how to properly wear a mask?

Answer: No.

—

Question: And were you given any in-service training on how to properly put the equipment on and take it off?

Answer: Oh, not till far, far later. Months after.

—

Question: You had said that you were not fit tested prior to that.

Answer: No.

Question: But you have been since?

Answer: Yes.

Question: And did someone show you [during the fit testing process] the proper way to put on that respirator, that mask?

Answer: Yes.

Question: During SARS, prior to you being fit tested, were you shown how to put it on?

Answer: No.

—

Question: How did you know how to put that N95 on initially?

Answer: It's from colleagues.

Question: Prior to the fit testing taking place, did anybody ever give you training on how to properly apply your mask, how to get a proper seal.

Answer: Training? I don't remember any training.

Answer: We weren't given an official in-service until the middle of the second SARS.

Question: And who did that for you?

Answer: You know what, I'm not really sure. Someone in regards to the education, like the nurse educator and stuff. We thought it was kind of ridiculous because, you know, at this point, we'd been through the first SARS and halfway through the second.

In cases where health workers were taught to use N95 respirators during SARS, health workers on day shifts in some cases appeared to have a greater chance of getting trained than their colleagues on nights.

One nurse said:

> Professional practice leader came – it was the second day – came up to the unit, and they had signs, and it showed you the appropriate way to don and take off your garb, which we put outside the rooms. I said to her, this is great that we have this, but the staff's coming on at 7:30 [in the evening], are you going to be able to come back and explain all this to them? And she said to me, oh no, can't you do that?

Another nurse had a similar experience:

Question: So, there wasn't an educator that came on the unit and [provided formal training]?

Answer: That's my big issue. There is no education except for Monday to Friday. Basically 9:00 to 5:00, sometimes in the evening. So, if you do permanent night shift you have absolutely no education for off-hours.

Question: Mostly occurred Monday to Friday during the day shifts?

Answer: Yes. And I brought it up over and over. Nursing is

> 24/7. They need to be accommodating, especially when most of the staff are nurses, for night shifts, somebody needs to be coming in at nights for in-services and education, and it just doesn't happen.

Less attention also appeared to have been paid to training medical residents and fellows. One physician told the Commission:

> There were no training sessions for the residents or the fellows. I think there were training sessions for the nurses and I think there were for the staff physicians, but there weren't for the residents and the fellows, which is – the reason for that is because resident and fellows rotate between hospitals and it is harder for the infection control service to capture them, but at the same time, it is a bit of a deficiency because residents and fellows have a lot of hands-on with patients.

As an indication of the consequences of poor training, some health workers told the Commission they were not told a good seal could be jeopardized by facial hair or by inserting something between the skin and the respirator.

An occupational safety consultant told the Commission that respirators work properly only if there is direct contact between the face and the respirator:

> What the intent is, you need to have a proper seal. And what is a proper seal? A proper seal is there can be nothing such as beard growth, or beard or, you know, even face deformities fall into this. You've got to be able to have skin-surface-to-respirator contact. So as long as you've got that contact and it allows you to feel the negative pressure within your respirator, then there's absolutely no reason why it wouldn't be safe.

One health worker with a beard who caught SARS despite his unfitted N95 had never been told that the N95 required a tight fit around the face. When asked if he had been given any instructions, he said no:

Answer:	No, I was never given any instructions.
Question:	Did you get that when you were fit tested?
Answer:	Yes.

Question: And was there anything that you learned that you weren't doing at the time or …?

Answer: Yes. In regards to ensuring a seal between the mask and the face. I was not doing that at the time in 2003.

A respiratory protection manual said:

> Facial hair can prevent a good seal between the skin and the respirator. Therefore, employees required to wear tight fitting respirators should be required to be clean-shaven where the respirator seals to the face unless there is a specific medical or religious reason for facial hair. In these cases, the employee can be reassigned to a position that does not require the use of a tight fitting respirator.[953]

Another health worker who caught SARS more than two months into the outbreak placed facial tissue between her skin and her N95 because of an allergic reaction to the respirator. She told the Commission:

Question: Do you know who you contracted SARS from?

Answer: I'm assuming it was [names patient].

Question: And you recall wearing a mask with her.

Answer: I had to shove Kleenex in it so it wouldn't touch my skin because I had an allergy to it. So I was wearing a mask, but I doubt it was in any way effective.

A hospital assistant who caught SARS in late May 2003 wore a surgical mask under his N95 respirator, unaware that inserting something between the respirator and the face can prevent a tight seal.

Question: But with this particular patient, you said you had on two masks.

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[953] Healthcare Health and Safety Association of Ontario, *Respiratory Protection Programs*, 2nd edition, p. 31.

Answer: Two masks.

Question: Which one did you put on first?

Answer: First I put that one [surgical mask] and the second one I put that [N95].

Question: Indicating the surgical mask first and then the one that sticks out [N95]. Do you know what the second one was? Do you know what kind of mask that was?

Answer: They are two colours, one was white [surgical mask], one was grey like this [N95] … but I was using only white because it's a little bit bigger and it would fit over my nose.

Question: Now, have you ever been fit tested for an N95 respirator?

Answer: No, I don't remember that …

Question: And did anyone show you how to put on that top mask [N95]?

Answer: Yeah, the nurse told me that you have to put like this first [surgical mask] and then comes this [N95] and put it on. Or she will put it on for me because I was very attached with that nurse up to now.

Question: Prior to SARS, were there occasions where you would wear two masks?

Answer: If it is very serious, the patient. Otherwise it is usual we put the mask on like that.

Question: And would you always wear the surgical mask and then the other mask [N95] over the top?

Answer: Not always. When the patient is very serious and if they were … the patient was, then we wear two. Otherwise my one mask is fine.

To send a man like this into SARS without training does not reflect well on the way the health care system protected its workers.

Another health worker also told the Commission that she wore a surgical mask underneath her N95 until she found out that that ruined the seal. Luckily, she did not contract SARS.

Lack of training underlay most problems. Very few hospitals had a respiratory training program to ensure that workers when called upon to use the N95 were properly trained and fitted as required by law. Respirators can become hazards if not worn properly and can spread infection if not removed properly after contact with a sick patient.

Once SARS struck there was little time to correct years of neglect and bring training up to speed. But even then more could have been done to ensure that hospitals knew about the training and fit-testing requirements and did their best to train up quickly and efficiently.

An important lesson from SARS is that safety training needs to be in place before emergency strikes. Once an emergency strikes, the emergency response and directives should include a requirement for whatever training is urgently needed to protect responders.

Ministry of Labour and Respiratory Protection

No safety device will protect a worker if he or she does not know how to use it properly. A medical study has noted:

> Previous efforts to improve infection control in the hospital and elsewhere have demonstrated that the efficacy of an intervention does not guarantee its success. The best respirator or medical mask will do little to protect the individual who refuses to wear it or who does not use it correctly.[954]

To ensure protection, Ontario law requires employers to train and supervise workers in the proper use of safety equipment.

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[954] National Academy of Sciences, *Reusability of Face Masks During an Influenza Pandemic*, pp. 39-40.

Section 10 of Ontario Regulation 67/93 requires:

> 10. (1) A worker who is required by his or her employer or by this Regulation to wear or use any protective clothing, equipment or device shall be instructed and trained in its care, use and limitations before wearing or using it for the first time and at regular intervals thereafter and the worker shall participate in such instruction and training.
>
> (2) Personal protective equipment that is to be provided, worn or used shall,
>
> (a) be properly used and maintained;
>
> (b) be a proper fit;
>
> (c) be inspected for damage or deterioration; and
>
> (d) be stored in a convenient, clean and sanitary location when not in use. O. Reg. 67/93, s. 10.

Section 27 (1) of the Occupational Health and Safety Act requires:

> 27. (1) A supervisor shall ensure that a worker,
>
> (a) works in the manner and with the protective devices, measures and procedures required by this Act and the regulations; and
>
> (b) uses or wears the equipment, protective devices or clothing that the worker's employer requires to be used or worn.

During SARS, the health workers who wore a surgical mask underneath their respirator, stuffed facial tissue underneath their respirator or wore the respirator over a beard cannot be faulted. They had not been trained, as required by law, on the proper use of respirators. None of their supervisors, as required by law, appeared to notice that respirators were not worn properly. That so many health workers were not properly trained, supervised or equipped reflects a deep systemic problem in the health care sector. Before and during SARS, much of the health care sector were unaware of the personal protective equipment requirements of Ontario work safety laws.

As a senior health administrator with significant experience in other sectors told the Commission:

> I can draw the conclusion from my 30-odd years of working in various industries, and I think that hospitals would be less aware of occupational health and safety at that time [i.e., during SARS] than what I found in other industries.

If there was a general lack of awareness of worker safety regulations among hospitals, provincial officials did little to remind them of hospitals' legal obligations during much of the outbreak.

The March 29, 2003,[955] and March 31, 2003,[956] directives contained nonspecific references to fit testing (i.e., "ensure mask is fit tested," and "masks must be fitted appropriately"), but these were insufficient for a health care system that was largely unaware of both fit testing and the fact that it was a legal requirement. It was not until May 13,

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[955] The March 29, 2003, POC directive to GTA and Simcoe County hospitals said:

> *For all staff when in any part of the hospital …*
>
> Use an N95 (or equivalent) mask (ensure mask is fit tested)
>
> *For hospital staff who are required to visit a patient care unit …*
>
> Use an N95 mask (ensure mask is fit tested)
>
> *For direct patient contact …*
>
> Use an N95 mask (ensure mask is fit tested)

[956] The March 31, 2003, POC directive to GTA and Simcoe County long-term care facilities said:

> All GTA/Simcoe County staff must invoke gown, glove, N95 mask (or equivalent), and eye protection precautions and cohort nursing protocols, whether or not they have identified possible SARS patients ...
>
> Note: N95 masks must be fitted appropriately
>
> POC directives to GTA and Simcoe County community care access centres:
>
> Full protocol precautions for staff
>
> Invoke gown, glove, N95 mask (or equivalent), and eye protection precautions and cohort nursing protocols, whether or not they have identified possible SARS patients.
>
> Masks and gowns may be reused but must be changed:
>
> - Following contact with a SARS patient
> - When wet or soiled
>
> N95 masks must be fitted appropriately

2003, that the POC first issued directives[957] explicitly reminded health care institutions of their legal duties regarding N95 respirators and other personal protective equipment. All six directives issued that day contained the following language:

> Personal protective equipment must be properly used and maintained consistent with the Occupational Health and Safety Act Reg. 67/93 s.10. N95 or equivalent masks must be qualitatively fit tested to ensure maximum effectiveness. (See NIOSH website at www.cdc.gov/niosh - Publication No.99-143).

These requirements had been in place as a feature of Ontario safety law since 1993, but many hospitals officials told the Commission they become aware of this only on May 13, 2003.

Provincial labour officials also did too little to ensure that worker safety regulations were enforced.

As noted elsewhere in this report, despite the large number of health workers who got SARS, the Ministry of Labour was largely on the sidelines. Reminders to employers of their worker safety obligations were not issued until late in the outbreak, and the Ministry of Labour, unlike its counterpart in B.C., did little during most of the SARS outbreak to ensure that employers were aware of and were meeting their statutory duties.

The Ministry of Labour conducted no proactive inspections of SARS hospitals in March 2003. During that month, nearly half of the SARS cases in the initial outbreak at Scarborough Grace were either health workers or members of their households, and six health workers at Mount Sinai also caught SARS.

Despite the events at Scarborough Grace and Mount Sinai in March 2003, the Ministry of Labour conducted no proactive inspections of health care settings with SARS patients in April 2003. Yet, during that month, the list of health workers contracting SARS grew. Affected hospitals included Mount Sinai, York Central, Sunnybrook and North York General.

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[957] On May 13, 2003, the POC issued six directives: Directive to Ontario Healthcare Providers in Community Settings and Community Healthcare Agencies (Excluding Community Care Access Centres); Directive to all Community Care Access Centres; Directive to all Ontario Non-Acute Care Facilities; Directives to all Ontario Acute Care Facilities; Directives to all Ontario Acute Care Hospitals for High-Risk Procedures Involving SARS Patients Critical Care Areas; Directives to all Ontario Prehospital Care Providers and Ambulance Communications Services.

Nor did the Ministry of Labour conduct proactive inspections in May 2003, when the second phase of the outbreak began. None was undertaken until June 12, 2003, in the face of a growing number of health worker complaints and work refusals. By that time virtually all 51 health workers[958] who caught SARS during the second phase of the outbreak had became infected.

It cannot be proven that health workers caught SARS because of unclear and confusing directives, because they were not trained or because the Ministry of Labour did not enforce worker safety regulations.

But SARS did demonstrate the importance of meticulous attention to worker safety measures. As one study found:

> Experience from Hong Kong suggested that infection among "protected" health workers was related to how well the precautionary measures were used. In a case control survey, they found no infection in staff using complete precautionary measures, whereas infected staff had omitted at least one of the precautionary measures.[959]

A key lesson from SARS is that while health workers needed to pay meticulous attention to their respiratory protection, the lack of clear directives, the lack of training and the lack of enforcement found during SARS made that task difficult and sometimes impossible.

No hospital or nursing home can be totally safe. They cannot even begin to be safe if workers are not properly trained and supervised in their use of safety equipment and if the government does not enforce its own safety laws.

Confusion over N95 Equivalent Respirators

It should have been crystal clear to health workers what type of respirator would protect them against SARS. Instead, as the ONA nurses' survey found, this was often not the case:

> 53% of respondents experienced confusion about which masks would provide the necessary protection.[960]

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[958] Dr. Colin D'Cunha, presentation to the SARS Commission Public Hearings, September 29, 2003.

[959] Philip W. H. Peng et al., "Infection control and anesthesia: lessons learned from the Toronto SARS outbreak," *Canadian Journal of Anesthesia* 10 (2003) 984-97.

[960] Hay Group, "Nurses' Perspective on the Outbreak of SARS in Toronto" (March 2006), p. 6.

Part of this uncertainty was because instead of specifying that only N95 respirators were to be used, the directives required N95 or equivalent respirators. The term "equivalent" was open to interpretation.

To worker safety experts like Dr. Gabor Lantos, the term "equivalent" was puzzling. Dr. Lantos told the SARS Commission:

> They are still talking about N95 masks or equivalent. As an engineer, I don't know what an equivalent is. It's either an N95 or it's better.[961]

Many in the health system interpreted "equivalent" to mean masks with the same manufacturer's specifications as an N95 but which had not been independently tested and certified. One such device was the PCM 2000 mask. (As noted above, we will use the term *respirator* to describe only respiratory protective devices that have been independently tested and certified.)

A health worker who got SARS told the Commission that his hospital haphazardly provided a variety of respiratory protective devices, including N95s and PCM 2000s, without differentiating between them:

Question:	… do you have a sense of what different kinds of respirators and masks were potentially used?
Answer:	There were for sure many N95 masks but also duckbill masks [i.e., PCM 2000] as well and, unfortunately, it seems very haphazard what in fact is put outside each individual patient's room. The little trolleys and dollies outside every room, and it's really, as I say, an assortment of equipment but not always standardized …

This doctor noted the problem:

Question:	What do you understand to be the difference between an N95 respirator and other forms, such as duckbilled or surgical mask?
Answer:	Okay, so my understanding was that the N95 mask had been certified to filter out 95 per cent of the aerosol

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[961] SARS Commission Public Hearings, November 18, 2003.

> particles. The duckbill mask [i.e., the PCM 2000] is one step below that but better than the ordinary surgical mask and in, with tuberculosis for instance, if the patient wears a duckbill mask and the health practitioner wears a duckbill mask, the risk of transmission is almost zero. What is not known is with a viral infection whether the duckbill mask offers any protection or not. I must say at the time, my recollection is that [his health care institution] said, yeah, use the N95, but it wasn't like no, but the fact that there were duckbill masks available suggests that, you know, that may be good enough. You don't have to have an N95.

During SARS, there was a wide divergence of opinion over what constituted an N95-equivalent respirator.

On one side were Health Canada, the Ministry of Health and Long-Term Care and experts at some major Toronto teaching hospitals who believed that an N95-equivalent respirator did not need to be independently tested and certified.

This was Health Canada's position:

> 4. Health Canada recommends wearing an N95 mask or equivalent. What does "equivalent" mean?
>
> It should be noted that NIOSH is an American agency, and there is no equivalent agency in Canada which certifies masks for industrial use. N95 masks have been tested and certified by NIOSH. For more information on NIOSH, testing and certification, visit http://www.cdc.gov/niosh/homepage.html
>
> Health Canada recognizes that many institutions and other health settings may not use N95 masks that are NIOSH approved, and considers masks fulfilling the following requirements as the "equivalent" to NIOSH certified N95 masks:
>
> - Filter particles one micron in size or smaller
> - Have a 95% filter efficiency
> - Provide a tight facial seal (less than 10% leak).
>
> 5. Are N95 masks considered an "equivalent" to the TB masks?

> Yes, NIOSH approved N95 respirators/masks or equivalent meet and exceed the TB mask criteria.
>
> If your health care facility masks meet the filter and fit criteria of #4 (above), they can be considered equivalent to TB masks.[962]

An April 11, 2003, document prepared by the Ministry of Health and Long-Term Care and entitled "Questions and Answers" took a similar position:

> Q3. Are the PCM 2000, P-95 and R-95 masks equivalent to the N95 mask?
>
> A3. Yes.[963]

An article by Toronto experts in the *Canadian Journal of Anesthesia* contained in a footnote the following description for a PCM 2000 mask:

> N95-equivalent mask ... [964]

An article published in a British medical journal in June 2003 and written by three experts at a major Toronto teaching hospital also appears to suggest that the PCM 2000 is equivalent to an N95:

> As a result of the transmission of SARS to health workers, N95 (or equivalent) masks are currently mandatory in Toronto for all medical personnel. They fulfill the filtering efficiency criteria of the National Institute for Occupational Safety and Health (NIOSH) N95 standard by protecting against droplet and airborne transmission of 95% of particles greater than 0.3 microns in size. These masks will offer a high degree of protection against the contact and droplet spread of the coronavirus. The N95 masks should be fit tested using an appropriate "fit test kit" according to the manufacturer's instructions. The PCM 2000 Tuberculosis masks meet the N95 filtration criteria and fit the majority of wearers adequately. They do not require routine fit testing. N95 masks can be worn continuously for 8 h whereas PCM 2000 masks can only be worn continuously for 4 h.[965]

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[962] Health Canada, "Infection Control Guidance for Respirators (Masks) Worn by Health Workers – Frequently Asked Questions – Severe Acute Respiratory Syndrome (SARS)," revised 2003-06-05.

[963] http://www.health.gov.on.ca/english/providers/program/pubhealth/sars/docs/qa_041103.pdf

[964] "Intubation of SARS patients: infection and perspectives of health workers," *Canadian Journal of Anesthesia* 53 (2006).

[965] "Anaesthesia and SARS," *British Journal of Anaesthesia*, 90 (2003).

Experts at another major teaching Toronto hospital took a similar position, suggesting that PCM 2000 masks, even though they were not NIOSH approved, were the equivalent of N95s because they had the same technical specifications. One expert at this hospital told the SARS Commission:

> … because we didn't know what we were dealing with, so we went with an N95-equivalent mask, which had been our mask for TB … for decades. The brand is PCM 2000 masks, and they're N95-equivalent. They're not NIOSH-approved masks, but they have the same filtration … The manufacturer would tell us what filtration the mask has …

This infection control expert noted that PCM 2000 masks met Health Canada's guidance:

> We were confident in them, and they were widely used across Canada, and Health Canada had no problems with those masks.

The Ministry of Labour took a very different position on what was equivalent to an N95. It told the Commission that it accepted the term "equivalent" in directives because this allowed health workers to also use the protection of higher-rated NIOSH-approved respirators like the N99 or N100.[966]

One ministry official told the Commission:

> Now, if somebody uses an N99 or an N100, they are equivalent and would provide even higher protection.

This approach was reflected in a document that the Ministry of Labour prepared for its staff, which appears to have been issued in early April:

> Problem: Refusal to work with or serve a patient, client or inmate with possible SARS and symptoms e.g. fever, cough, history of travel or contact with confirmed SARS case, in healthcare setting or in corrections facilities
>
> Solution: Health care facilities and corrections facilities must implement the infection control measures required by MOHLTC and public health units. These include gloves, gowns, **N95 or better respirators**, eye protection, hand-washing facilities, plus the appropriate training and respirator fit testing.[967] [emphasis added]

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[966] The minimum efficiency of each tested filter is to be greater than or equal to 99.97% for N100 filters and 99% for N99 filters.

[967] Document entitled "SARS Scenarios" which was attached to a copy of the Ministry of Labour's SARS protocol which it provided to the SARS Commission in the course of its submission at the public hearings.

Ministry of Labour officials told the Commission that they would have preferred to have seen the phrase "N95 or better" in the directives. But the directives continued to refer to "N95 or equivalent."

The Ministry of Labour said it would not, without appropriate independent testing, accept the manufacturer's specifications as being sufficient proof that a respirator was equivalent to one certified by NIOSH.

During SARS, the Ministry of Labour was asked whether a European-approved respirator was an N95 equivalent. At the time, there was concern about supplies of N95 respirators and officials wondered if there might be appropriate substitutes in Europe. A Ministry of Labour official consulted with NIOSH, learned that the European test was less rigorous than NIOSH's and was told NIOSH would accept the European respirator only if it passed its own tests.

This official told the SARS Commission:

> So the question is: Is that equivalent?
>
> Now, certainly at the Ministry of Labour, we don't have a laboratory that's testing respirators, approving respirators. We don't have people that are doing the research and so we're going to rely on NIOSH.
>
> And if NIOSH had said to us their professional opinion is it is equivalent, then we would have considered making a statement to say we've done some research, we consulted with an expert in the field and we have concluded that, you know, it is equivalent or it is adequate.
>
> And NIOSH was being very, very careful. And the position that NIOSH was taking is that the efficiency is not the same and certainly the European respirator was less efficient.
>
> Now the only way NIOSH would be willing to make a comment would be if [the manufacturer] would submit their respirator to NIOSH, have it go through the N95 approval testing and if it met the criteria then they would be issued, I guess, approval as an N95.

The debate over what was an equivalent respirator continued after SARS.

On March 3, 2004, one Toronto hospital wrote to the Ministry of Labour after it had issued an order requiring the hospital to provide health workers with NIOSH-approved respirators, and not the PCM 2000:

> Further to our discussion, our Infection Prevention and Control department wanted to get clarification on the MOL order regarding change to "N95 or better" in our policies.
>
> - Can you indicate the specific regulation or standard that is the basis for the MOL requirement that N95 is the minimum protection and other masks without the N95 under the NIOSH criteria are not acceptable e.g. PCM 2000
>
> - Can you provide the evidence that supports the MOL's requirement

On March 23, 2004, the Ministry responded:

> The inspector's order gives the regulatory requirement. The contravention is of the compliance order issued.
>
> The CSA Standard Z94.4-02 Selection, Use and Care of Respirators G4.3.1, page 67, indicates there are three filter efficiencies for non-powered particulate removing respirators (95%, 99% and 99.97%) and one efficiency for powered air-purifying respirators (99.97%). A P100 respirator has better filter efficiency than an N95 and is acceptable for use. A powered air-purifying respirator with a 99.97% efficient filter also has better filter efficiency than a N95.
>
> The CSA Standard Z94.4-02 Selection, Use and Care of Respirators 2.1, page 1, indicates an accepted respirator to be a respirator tested and certified by procedures established at testing and certification agencies recognized by the authority having jurisdiction. The Ministry of Labour, as that authority, recognizes NIOSH testing and certification. The N95 respirator or respirator with better filter efficiency must be tested and certified by NIOSH.
>
> There are several reasons the Ministry of Labour recognizes NIOSH testing and certification:

1. Assurance that the respirator/filter has met a recognized standard of efficiency.
2. Assurance of consistent quality since manufacturers of NIOSH approved respirators must submit to NIOSH a quality assurance plan.
3. Assurance that in the event of a serious problem being identified NIOSH has the power to issue a stop sale order to the manufacturer.
4. For respirators that are not approved by a recognized testing and certification agency such as NIOSH, the Ministry does not have the same assurance of quality and performance.

While undoubtedly acting in the best of good faith and with the best of intentions, it is surprising that so many experts took the position during and after SARS that a PCM 2000 is equivalent to an N95. In an age when independent testing is the norm in so many product areas, from the crash worthiness of automobiles to the safety of household appliances, it seems remarkable that anyone in charge of health worker safety would be content to rely solely on the manufacturer's specifications without independent certification.

By not providing NIOSH-certified and -tested respirators, employers accepted a lower standard of protection. Regrettably, they also appeared to place greater reliance on advice from Health Canada, a federal agency with no jurisdiction over Ontario workplaces, than on the higher standards of protection required by the provincial ministry in charge of worker safety in Ontario.

An important lesson from SARS is that in any health emergency, the Ministry of Labour must be actively engaged from the start to ensure adherence to safety standards and to ensure that there is no confusion in the workplaces over what equipment is required to protect workers.

Evidence of Airborne Transmission

During SARS, there were multiple episodes of transmission that could not be readily explained by droplet spread alone, and there were episodes and situations where airborne transmission appears to have been involved in transmission.

In the Amoy Gardens housing complex in Hong Kong, cases appeared rapidly in several different apartment buildings in manner atypical of contact or droplet transmission.[968]

Spread to health workers in Toronto during aerosol-generating procedures, including endotracheal tube intubation or bronchoscopy,[969] is another example where airborne transmission has been invoked during nosocomial spread.

The pattern of spread of SARS associated with sick patients travelling on aircraft suggests that airborne transmission could have occurred during the flights.[970]

Another example is the super-spreader event at the Hotel Metropole, when at least 16 people, including the index cases in Toronto, Vancouver, Singapore, Hanoi and Hong Kong, were infected in February 2003.

According to the World Health Organization:

> Professor LJL's infected body fluids must have been aerosolized, as indicated by the traces on the inlet of the elevator lobby fan. Anyone who stepped out of the 9th floor lift [i.e. elevator] shortly after the event would have been exposed, while those who walked past room 911 [i.e.,

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968. I.T.S. Yu, Y. Li, T.W. Wong, et. al., "Evidence of airborne transmission of the severe acute respiratory syndrome," *New England Journal of* Medicine 350 (2004): 1731-390 (Evidence of airborne transmission of SARS Article).

969. M. Ofner, M. Lem, S. Sarwal, M. Vearncombe, A. Simor, "Cluster of severe acute respiratory syndrome cases among protected health-care workers" – Toronto, Canada, April 2003," MMWR 52 (2003): 433-436; D.C. Scales, k. Green, A.K. Chan, S.M. Poutanen, D. Foster, et. al., "Illness in intensive care staff after brief exposure to severe acute respiratory distress syndrome", *Emerging Infectious Diseases* 9 (2003): 1205-10.

970. W.H. Seto, D. Tsang, R.W. Yung, et. al., "Effectiveness of precautions against droplets and contact in prevention of nosocomial transmission of SARS," *Lancet* 361 (2003): 1519-20 (Seto et al, "Effectiveness of precautions against droplets and contact in prevention of nosocomial transmission of SARS")

> the index patient's room] may have been at risk for a longer period. Presumably, by morning there was no longer any viable virus, or else staff had quickly disinfected the area without becoming exposed. It certainly appears that only those who were on the 9th floor that night were at risk. Thus, the "miracle" of none of the hotel staff getting SARS could simply have been due to their not having been exposed to the virus.
>
> The rooms in the hotel, atypically, were pressurized; so infected aerosols could not have entered from the corridor. The WHO team dismissed theories that the virus was transmitted through elevators, door handles, or handrails. "In this hotel, these are unlikely scenarios," the report [by the WHO team of Health Canada experts] said, "because other guests would have made similar contacts, and indeed, staff would have had intense exposure risk. Staff who served the subject floor did not get infected."
>
> The contamination occurred in the corridor of one wing of one floor, and never moved up or down the building or endangered people inside their rooms.[971]

The single most dramatic spread of SARS was the Amoy Gardens outbreak. More than 300 people in four separate Hong Kong buildings caught SARS. Airborne spread was at first dismissed as the likely transmission mechanism as opposed to:

> person-to-person spread, contamination of communal facilities (such as elevators) and thus indirect contact transmission, and problems with sewage disposal resulting in fecal-oral transmission.

A later study[972] suggests airborne transmission as the likeliest explanation. This research says it is likely that the exhaust fan in bathroom of the index cases drew aerosols (generated by coughing or flushing virus-laden stool in toilets) from the bathroom into common building airshafts. These aerosols would rise with the warm humidified air currents and be transmitted to the residents in upper levels of the apartment complex. Natural wind currents likely then permitted the spread to other buildings as the contaminated air plume left the building of the index case. This theory is supported in a mathematical model. On this basis, airborne transmission appears to provide the single best mechanism explaining the varied attack rates in the different floors and buildings within the Amoy Gardens complex.

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[971] WHO, *SARS: How a Global Epidemic Was Stopped* (Geneva: WHO, 2006), pp. 147-48.

[972] Evidence of Airborne Transmission of SARS Article.

Some experts regard this as a landmark study because it provides a fresh perspective on the droplet-versus-airborne debate. They suggest the initial Amoy Gardens investigation did not seriously consider airborne transmission because of the current bias in favour of the large-droplet theory.[973]

Noting that research into airborne transmission has been neglected, some researchers suggest SARS provides an opportunity to critically re-evaluate how respiratory diseases are spread:[974]

> The SARS epidemic provides an opportunity for the critical reevaluation of the aerosol transmission of communicable respiratory diseases. Prevailing thought has focused on determining whether an infectious agent has "true" airborne transmission. We find it more useful to classify the aerosol transmission of diseases as obligate, preferential, or opportunistic, on the basis of the agent's capacity to be transmitted and to induce disease through fine-particle aerosols and other routes ...
>
> There are probably many diseases with opportunistically airborne transmission – infections that naturally cause disease through other routes

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[973] "In the official investigation, airborne transmission was not seriously considered, because the current paradigm, as initially described by Charles Chapin in 1910, supports the belief that most communicable respiratory infections are transmitted by means of large droplets over short distances or through contact with contaminated surfaces" (Chad J. Roy and Donald K. Milton, "Airborne transmission of communicable infection – the elusive athway," *New England Journal of* Medicine 350 [April 22, 2004], www.nejm.org) (Roy, and Milton, "Airborne transmission of communicable infection – the elusive pathway")

[974] Roy, and Milton, "Airborne transmission of communicable infection — the elusive pathway":

> What underlies the low repute of airborne transmission today? First, the two diseases whose aerosol transmission is most widely acknowledged, measles and tuberculosis, have been largely controlled through vaccination or drug therapy. As a result, the impetus to understand the aerobiology of infectious diseases has faded. Second, contamination of water, surfaces, and large-droplet sprays can be easily detected. It is difficult, however, to detect contaminated air, because infectious aerosols are usually extremely dilute, and it is hard to collect and culture fine particles. The only clear proof that any communicable disease is naturally transmitted by aerosol came from the famous experiment by William Wells, Richard Riley, and Cretyl Mills in the 1950s, which required years of continual exposure of a large colony of guinea pigs to a clinical ward filled with patients who had active tuberculosis.

> (e.g., the gastrointestinal tract) but that can also initiate infection through the distal lung and may use fine-particle aerosols as an efficient means of propagating in favorable environments. For all three classes of diseases that are communicable through aerosols, the agent must be capable of initiating infection, with some reasonable probability, by means of a small dose delivered to the lung in a single airborne particle.
>
> The current analysis of the outbreak at Amoy Gardens suggests that SARS has at least opportunistically airborne transmission.[975]

Two more recent studies also suggest the possibility of airborne spread in hospital wards. One examined a nosocomial outbreak in a Hong Kong hospital.[976] The other detected the presence of the SARS virus in the air in the room of a SARS patient in Toronto:

> Severe acute respiratory syndrome (SARS) is characterized by a risk of nosocomial transmission; however, the risk of airborne transmission of SARS is unknown. During the Toronto outbreaks of SARS, we investigated environmental contamination in SARS units, by employing novel air sampling and conventional surface swabbing. Two polymerase chain reaction (PCR)–positive air samples were obtained from a room occupied by a patient with SARS, indicating the presence of the virus in the air of the room. In addition, several PCR-positive swab samples were recovered from frequently touched surfaces in rooms occupied by patients with SARS (a bed table and a television remote control) and in a nurses' station used by staff (a medication refrigerator door). These data provide the first experimental confirmation of viral aerosol generation by a patient with SARS, indicating the possibility of airborne droplet transmission, which emphasizes the need for adequate respiratory protection, as well as for strict surface hygiene practices.[977]

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975. Roy, and Milton, "Airborne transmission of communicable infection — the elusive pathway."

976. "The analysis of the temporal-spatial spread of SARS from the index case patient to other inpatients in the ward suggested that airborne spread through virus-laden aerosols possibly played an important role. Unlike other reports of airborne outbreaks, we were unable to document the existence of the infective agent in aerosols. Such documentation was simply impossible in early March 2003, when the infective agent was yet to be identified. SARS was unlikely a communicable disease with obligate airborne transmission, such as tuberculosis, but there was evidence to suggest that SARS could have at least opportunistic airborne transmission under special circumstances when virus-laden aerosols could be generated" (I.T.S. Yu et al., "Temporal-spatial analysis of severe acute respiratory syndrome among hospital inpatients," *Clinical Infectious Diseases* 191 (2005):1472-77.

977. Booth et al., "Detection of airborne severe acute respiratory syndrome (SARS), 1472–77.

An editorial that accompanied the article noted:

> Airborne transmission of the severe acute respiratory syndrome (SARS) coronavirus (CoV) has been the favored explanation for its transmission on an aircraft and appeared to explain a large community outbreak of SARS in the Amoy Gardens in Hong Kong. The article by Booth et al. in this issue of the *Journal of Infectious Diseases* suggests that airborne dissemination of SARS-CoV may also occur in the health-care setting. A patient with SARS who was breathing quietly but coughing occasionally in a hospital room contaminated the surrounding air with SARS-CoV, as shown by experiments conducted during the SARS outbreak in Canada in early 2003.
>
> Several viruses and other pathogens, such as *Mycobacterium tuberculosis*, have been shown to be transmitted by airborne dissemination. However, the possibility of airborne dissemination of SARS-CoV has been controversial. The important work by Booth et al. has shown beyond doubt that SARS-CoV aerosol generation can occur from a patient with SARS …
>
> Because none of the SARS-CoV cultures were found to be positive and host infection was not involved, the authors rightly avoided drawing a conclusion of airborne *transmission* of SARS-CoV. Definitive proof of transmission will need to come from experiments similar to those performed by Riley et al. in the 1950s, which involved exposure of guinea pigs to air shared by patients with active pulmonary tuberculosis. In vitro viral culture tests may not be sensitive enough for this purpose. However, if SARS-CoV is naturally airborne (produced by breathing and coughing), as was shown by Booth et al., then there is sufficient concern that it can be transmitted successfully by air …[978]

Were N95 Respirators More Protective than Surgical Masks?

Despite the evidence of airborne SARS, and despite the fact the N95 was specified by Ontario and the CDC and the WHO for protection against SARS, doubts remained that these safety precautions had been proved necessary beyond a scientific doubt.

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[978] Tommy R. Tong, "Airborne severe acute respiratory syndrome coronavirus and its implications," *Journal of Infectious Diseases* 191 (2005).

Health Canada said:

> International SARS studies have not shown a difference in efficacy between surgical masks and N95 respirators in preventing transmission of the SARS coronavirus. Recommendations will be reviewed as further evidence emerges.[979]

Two studies of how health workers got SARS, one by a Hong Kong team led by Dr. W. Seto[980] and another in Toronto led by Dr. Mark Loeb,[981] suggest no substantial benefit to wearing a surgical mask over an N95 respirator.

Citing those studies, one expert told the SARS Commission:

> You have to go back to the early days. So there's some stuff from Hong Kong that were published in *The Lancet* in May. And there is some data out of the Scarborough Grace hospital from, particularly, in their intensive care unit from very early in the outbreak before they realized what they were dealing with. And it looks at nurses in the ICU there and what personal protective equipment they used and whether they were protected or infected. The things that fall out of that as being statistically significant are if you put on a mask consistently, and it did not matter much if it was an N95 mask or surgical mask, and did some hand hygiene consistently, and there is similar kind of data from Hong Kong.

Despite the opinion of this expert and others, there is no consensus on the conclusions that can be drawn from these two studies.

A Vancouver team of researchers who conducted a major study on respiratory protection commissioned by the Ontario Hospital Association's Change Foundation acknowledged the importance of these two studies, but also pointed to their shortcomings:

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[979] Health Canada, "Infection Control Precautions for Respiratory Infections Transmitted by Large Droplet and Contact Infection Control Guidance If There Is a SARS Outbreak Anywhere in the World, When an Individual Presents to a Healthcare Institution with a Respiratory Infection," December 17, 2003.

[980] Seto et. al., "Effectiveness of precautions against droplets and contact in prevention of nosocomial transmission of SARS".

[981] M. Loeb, A. McGeer, B. Henry, et. al., "SARS among critical care nurses, Toronto," *Emerging Infectious Disease* 10 (2004): 251-55.

> Seto and colleagues showed that wearing any mask was protective against SARS in a case-control study of 13 HCWs [health care workers] who developed SARS and 241 controls who did not. Regularly wearing gowns was protective in univariate analyses, but only mask (surgical or N95) use was significant in the multivariate analysis.
>
> The conclusions from this study must be viewed with caution because of the small number of cases and because the study excluded HCWs from one hospital with a large outbreak where exposure to aerosolizing procedures was likely.
>
> In another study, Loeb et al. constructed a retrospective cohort of 43 intensive-care unit nurses from Toronto. Eight of the 32 nurses who had direct contact with a patient with SARS laterly developed SARS themselves. Regular use of N95 respirators and surgical masks was associated with protection from SARS when compared with irregular or no mask or respirator use … There was a trend toward increased protection from the N95 respirators in comparison with surgical masks, but this was not statistically significant. Again, the number of cases limited the power of this study.[982]

Experts who questioned the value of N95 respirators over surgical masks also pointed to the fact that SARS was controlled in Vietnam without their use:

> Although a great deal of attention was focused on the need for N95 respirators or even respiratory protection with higher protection factors, it is also worth noting that in Vietnam, N95 respirators were not available until the third week of the outbreak. However, this did not prevent Hanoi from becoming the first affected jurisdiction to effectively control SARS; masks and barriers with spatial separation were thought to be the key control factors.[983]

Vietnam did indeed control SARS despite an initial lack of N95 respirators. But as Table 3 indicates, Vietnam also had the highest percentage of health workers among its SARS cases.

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[982] Yassi et al., "Research gaps in protecting health workers from SARS."
[983] Yassi et al., "Research gaps in protecting health workers from SARS."

Table 3 – Comparison of Percentage of Health Workers Who Got SARS in Ontario and in Other Jurisdictions[984]

Jurisdiction	Number of HCWs Who Caught SARS	HCW Cases as Percentage of Total Cases
Vietnam	36	57%
Ontario	169	45%
Singapore	97	41%
Hong Kong	386	22%
Taiwan	68	20%
China	1,002	19%

The fact that N95s were not used at first in Vietnam, where 57 per cent of those who got SARS were health workers, hardly supports those who campaign against the N95.

The debate over whether N95 respirators were really necessary for routine patient care is actually two separate debates. The first is whether it was the right decision to require the N95 in late March 2003, during the difficult early days of the outbreak. The second is whether, in hindsight and with the benefit of all the scientific research to date, the decision can be seen in a different light.

It is difficult to fault the early decision to require the use of N95 respirators. The officials who led the response to SARS were taking a prudent approach in the face of a mysterious new disease. As Dr. James Young told the SARS Commission public hearings:

> … we were dealing with an outbreak where we did not know for sure that it was a virus, we did not know for certainty what virus it was, we did not know what symptoms and what order of symptoms SARS presented with.
>
> We had a vague idea that some of the symptoms might include fever and cough. We did not, for example, for some period of time, realize that

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[984] WHO SARS Summary, July 31, 2003; Ontario data is from the Presentation of Dr. Colin D'Cunha, SARS Commission Public Hearings, Sept. 29, 2003.

> about 30 per cent of patients also could produce – present with diarrhea. We did not know how long it incubated for. We did not know with certainty whether it was droplet-spread or whether it was airborne. We did not know when it was infectious. We did not have a diagnostic test for it and still do not have an accurate diagnostic test. We had no way of preventing it, we had no vaccine and we had no treatment.
>
> What we had was an illness with many unknowns and virtually no knowns.[985]

Knowledge about SARS was slow in coming, whether it was about how it spread or how far it had in fact spread.

Dr. Young told the SARS Commission's public hearings:

> … it's not like a forest fire which, in and by itself, can be difficult enough to control, but if I want to know the size of a forest fire, I can get above the forest fire, see where it is and build a barrier so that the forest fire does not jump over that barrier, and even if it does, I may be able to have a series of smaller fires I can put out.
>
> The theory in controlling something like SARS is the same, but the difficulty and the problem is, I have no idea where it is. I only know where it was 10 days ago and I have to not only catch up that 10 days, I must get further ahead.[986]

To take Dr. Young's analogy further, if you don't know where an outbreak currently is, you don't know in real time if it's expanding or contracting. You also don't know in real time whether your current containment efforts, including levels of respiratory protection, are working.

Under these circumstances, and in view of the initial scientific uncertainty over SARS, provincial officials cannot be faulted for taking a better-safe-than-sorry approach to worker safety and respiratory protections by mandating the use of N95 respirators.

Now, with the benefit of post-SARS scientific research and the arguments of those who opposed in good faith the use of the N95, can this decision still be questioned in hindsight?

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[985] SARS Commission Public Hearings, September 30, 2003.

[986] SARS Commission Public Hearings, September 30, 2003.

Much remains unknown about SARS and about our understanding of how respiratory infections are spread. Research since the outbreak has shed some light on SARS and its mechanisms of transmission. The research shows how little was known during the outbreak and how much remains unknown even now about this new disease.

As noted above, knowledge about how SARS is transmitted has evolved significantly since the outbreak. Some recent studies suggest that it may be spread by airborne transmission. These studies lend further weight to taking a prudent precautionary approach to the protection of health workers against a new disease whose method of transmission is not fully understood.

In addition to all the research that suggests a risk from airborne transmission, there is another important reason to remain cautious about how SARS is transmitted and thus to require a higher level of protection than just a surgical mask.

One senior occupational medical expert suggested that the high number of health workers who got SARS is itself reason enough to use higher levels of respiratory protection:

> Clearly the high morbidity and mortality associated with SARS – that's another reason to utilize the N95. A lot of literature dealing with SARS tends to talk about contact and droplet transmission. There are some reports about Vietnam and about how they only wore surgical masks. So it's still controversial in the literature about what would be appropriate from a transmission basis. However, there is reason to recommend airborne precautions and N95 due to the high morbidity and mortality associated with this disease.

Dr. Annalee Yassi told the Commission there was very little downside to using a higher level of protection:

> Even if we don't have strong evidence that the transmission of infection would have been different had there not been N95s, we do know that N95s do protect better than surgical masks. There was really no downside, other than some trivial cost factor. It is trivial in the bigger picture when you look at the billions and billions of dollars spent on the outbreak. The extra little cost of an N95 versus a surgical mask is more than made up for by the

> better degree of protection that it provides … If health workers felt more protected wearing an N95 when someone is coughing and sneezing, then why not. It was the right decision then and it still is the right decision.

Although scientific research into SARS transmission continues, it appears that the initial dogmatic statements dismissing the possibility of airborne transmission were premature. SARS demonstrated the importance of taking precautionary approach to transmission of a new respiratory disease and to requiring the best system of respiratory protection for hospital workers.

Setting aside the ongoing droplet-versus-airborne debate, the Commission heard other compelling arguments favouring a precautionary approach requiring higher levels of respiratory protection.

A number of witnesses remarked that unforeseen events and accidents happen in hospitals that might inadvertently generate aerosolized particles. Experts note that even if SARS is primarily droplet-spread, no one knows when an incident might happen in a hospital to cause the inadvertent generation of aerosols.

One CDC expert said:

> … when you look at the R0 it suggests it's probably not airborne in the same sense of measles or anything like that. When you look at epidemiologic links, people down the hallway, around the corner, they're not getting sick. But in health care facilities, when you have people in, you just don't know sometimes when you're going to have an aerosol-generating procedure happen and it could happen precipitously, and because of those issues and because of issues like this, we're going to continue to recommend airborne precautions.

Nora Maher, an occupational hygienist with the Occupational Health Clinics for Ontario Workers, told the SARS Commission's public hearings:

> In determining how to control a hazardous exposure, it is important to take into account the chance of human error. No worker wants to make a mistake; no one sets out to undertake a task with more risks than necessary. The best controls will be those that have a failsafe or backup mechanism built in and to evaluate.[987]

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[987] SARS Commission Public Hearings, November 17, 2003.

Opposition to Fit Testing

Fit testing[988] was the most contentious safety issue during SARS.

Nurses and their unions were quite properly angry that hospitals were ignorant of the long-standing 1993 legal requirement for fit testing:[989]

- One prominent hospital infection control director insisted in a June 2003 memo to health workers that "Canadian regulations have never required fit testing in the healthcare setting." Nothing could have been more untrue. While no one questions the good faith of this person, there is something profoundly wrong with a system in which a person in this position can be so utterly wrong about worker safety in hospitals.

- An article by some Canadian experts in the *British Medical Journal* made the same point: "Fit testing had never been required in the Canadian health care setting."[990]

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[988] Fit testing helps users select a respirator that best fits their faces and teaches them how to get a proper seal each time they use respirator, a procedure known as a *seal check*, and how to safely don and doff a respirator. A test verifies that the chosen respirator works properly. There are two types of tests. One is called a *qualitative fit test* and "relies on the user's subjective response to taste odour or irritation." The other is a *quantitative fit test* and "relies on an instrument to quantify the fit of a respirator" (Healthcare Health and Safety Association, *Respiratory Protection Programs*).

[989] Section 10 of the Ontario Regulation 67/93 requires:

> 10. (1) A worker who is required by his or her employer or by this Regulation to wear or use any protective clothing, equipment or device shall be instructed and trained in its care, use and limitations before wearing or using it for the first time and at regular intervals thereafter and the worker shall participate in such instruction and training.
>
> (2) Personal protective equipment that is to be provided, worn or used shall,
>
> (a) be properly used and maintained;
>
> (b) be a proper fit;
>
> (c) be inspected for damage or deterioration; and
>
> (d) be stored in a convenient, clean and sanitary location when not in use. O. Reg. 67/93, s. 10.

[990] Sue Lim, Tom Closson, Gillian Howard, and Michael Gardam, "Effects of outbreak policies: collateral damage: the unforeseen effects of emergency outbreak policies," *Lancet Infect Dis* 4 (2004): 697-703.

- Health Canada also seemed unaware of this Ontario requirement. A Canada Communicable Diseases Report on the April 13, 2003, intubation at Sunnybrook said: "In addition, at the time these exposures occurred, fit testing was not recommended by Canadian public health authorities; such testing has been mandated in the United States since 1972."[991]

Officials at a number of hospitals told the Commission that they only become aware of the legal requirement of fit testing when the May 13, 2003, directives[992] were issued.

As a result, fit testing did not begin in most hospitals until May 2003. Most health workers who used N95 respirators were not fit tested until June 2003. Not surprisingly, the proper fit of a respirator was a problem for many health workers. The ONA survey found:

> 50% of respondents experienced problems with the masks not fitting properly, and 8% were told to return to work without a properly fitting mask.[993]

Unions were angry that so many health workers had to go through SARS without being fit tested as required by law.

ONA and OPSEU said in their joint presentation at the public hearings:

> Finally, fit testing began, sporadically due to union complaints and a nurse's June 6th work refusal. The Ministry of Labour ordered that the

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[991] Health Canada, "Cluster of severe acute respiratory syndrome cases among protected health care workers – Toronto, April 2003," Canada Communicable Diseases Report volume 29-11, June 1, 2003.

[992] All six directives issued that day contained the following language:

> Personal protective equipment must be properly used and maintained
>
> consistent with the *Occupational Health and Safety Act* Reg. 67/93 s.10. N95
>
> or equivalent masks must be qualitatively fit tested to ensure maximum effectiveness. (See NIOSH website at www.cdc.gov/niosh -Publication No.99-143.)

[993] Hay Group, "Nurses' Perspective on the Outbreak of SARS in Toronto" (March 2006), p. 10.

> nurse be fit tested before being required to work in a workplace that required respiratory protection.[994]

Fit testing was a hot-button issue for the health system, but for different reasons. Many in the health care system questioned the scientific basis for fit testing and were angry at the logistical challenge of a procedure that, in their view, had limited value.

One prominent infection control practitioner said:

> We want to point out that fit testing of masks, or the lack of fit testing of masks in Canada, we believe to be a red herring and was not part of the reason for transmission of the SARS virus.

The Ontario Medical Association told the SARS Commission public hearings:

> At the time when mask fit testing was first proposed, we followed the directive but we did ask for the scientific evidence that this fit testing would make a difference.
>
> In our own comprehensive literature search, we have not found any evidence to support mask fit testing as it is being proposed in Ontario. In fact, we have been instructed during the current planning of this massive project not to ask for the evidence.[995]

An infection control practitioner told the Commission in a confidential interview:

> I think people in Canada did not see that this was a really big issue, the fit testing of the N95 masks, and I think a lot of experts in Canada still do not believe that it is a big issue. It may be a big issue in industry, where you are wearing N95 or N99, N100 masks for chemicals, where you are dealing with vaporized chemicals; that is probably or certainly is a whole different level of protection you require. But a lot of experts still believe that for biologic agents, there is not good evidence that you need to go through all of this; extra protection that is offered through the fit testing is not necessary for biologic agents.

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994. SARS Commission Public Hearings, November 17, 2003, p. 13.
995. SARS Commission Public Hearings, September 29, 2003, pp. 47-48.

Part of employers' frustration over fit testing was that it meant they would have to carry many different types of respirators, at a time when there was much concern over respirator shortages. As was noted in the second interim report, getting enough supplies of N95 respirators was a widespread problem during SARS.

The Ministry of Health and Long-Term Care noted the problem of masks during its presentation to the Commission at public hearings:

> The lack of a domestic mask supplier and an insufficient inventory of masks to deal with the infection protocols as the emergency progressed was also problematic.[996]

An article in *The Lancet* by some Toronto experts describes the particular challenge of getting enough masks:

> … submicronfiltering masks (e.g., N95 masks) were in variable supply, because before SARS such masks were used only for patients with airborne infections and hence most facilities would have only kept a limited supply. With 211 hospitals in Ontario alone requiring these supplies, Canadian suppliers rapidly ran out of stock. There was no pre-existing supply stockpile, and our mask supplies were obtained from foreign manufacturers. Because SARS was a worldwide threat, there was great difficulty in acquiring masks from other countries, since foreign governments understandably wanted to keep such supplies for their own citizens.[997]

St. Michael's Hospital said at the public hearings:

> Supplies were particularly problematic as there is not enough masks available in the system for optimal safety. After fit testing having supplied the right type of mask for the right staff member complicated the issue. The requirement for mask fit testing was a significant challenge. St. Michael's Hospital went to great lengths to comply with provincial directives with respect to fit testing.[998]

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996. SARS Commission Public Hearings September 30.

997. Sue Lim, Tom Closson, Gillian Howard, and Michael Gardam. "Collateral damage: the unforeseen effects of emergency outbreak policies. Lancet Infectious Dis. 2004;4(11): 697-703"

998. SARS Commission Public Hearings, September 30 2003.

Some experts argued during SARS that fit testing was not necessary because it was sufficient to teach users to perform a seal check.

An infection control expert who argues against the N95 and against fit testing told the SARS Commission in a confidential interview that a seal check is a good substitute for a fit test:

> An N95 mask, the more important thing is the design of the mask rather than the fit testing. A well-designed N95 mask applied properly so the person knows to fit it around his face and does the test for the seal has a 93 per cent effective seal in terms of protection.
>
> … if you fit test it, you could get that up to 95 per cent and that is a marginal difference, so the issue around fit testing these masks, to say that was a large issue in the middle of this outbreak I think was a huge mistake, and a huge disservice to those people taking care of the patients.

On the particular issue of whether a seal check is a substitute for a fit test, recent research indicates that "a seal check should not be used as a surrogate fit test."[999]

On the overall value of fit testing, a study by the Institute of Medicine concluded:

> By contrast, the ability of an individual wearer to obtain good face piece fits is far more varied and is a function of the facial dimensions of the wearer, the training received by users to ensure that the device is properly placed on the face each time the respirator is donned, and how closely the

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[999] "Guidelines issued by the Centers for Disease Control and Prevention and the World Health Organization state that health workers should wear N95 masks or higher-level protection during all contact with suspected cases of severe acute respiratory syndrome. Before use, the manufacturer recommends performing a user seal check to ensure that the mask is fitted correctly. This study aimed to test the ability of the user seal check to detect poorly fitting masks. This study is a retrospective review of a mask-fitting programme carried out in the intensive care unit of the Prince of Wales Hospital in Hong Kong. In this programme, all staff were tested with two types of N95 mask and one type of N100 mask. The results of the documented user seal check were then compared with the formal fit-test results from a PortaCount. Using a PortaCount reading of 100 as the criterion for a correctly fitted mask, the user seal check wrongly indicated that the mask fitted on 18-31% of occasions, and wrongly indicated that it did not fit on 21-40% of occasions. These data indicate that the user seal check should not be used as a surrogate fit test. Its usefulness as a pre-use test must also be questioned." J.L. Derrick, Y.F. Chan, C.D. Gomersall, S.F. Lui "Predictive value of the user seal check in determining half-face respirator fit," *J Hosp Infect.* 59 (2005): 152-55.

> device matches the size and shape of the wearer's face. Coffey et al. (2004) have demonstrated that subjects who wear most N95 filtering face pieces without prior fit testing fail to achieve the expected levels of protection, and that persons passing a qualitative or quantitative fit test will achieve the expected level of protection (Coffey et al., 2004).[1000]

One expert who campaigned heavily against the N95 and fit testing went so far as to say that because we got through SARS without fit testing, we therefore did not need fit testing:

> We got through SARS I and managed it, controlled it, without fit testing for the N95 masks.

The logic of this confident assertion is not immediately apparent. Ontario certainly managed to get through SARS I without fit testing, but almost half of those who got SARS were health workers. The fact that we got through SARS without fit testing in an outbreak where 169 health workers caught it on the job is no argument against the evidence that fit testing provides a better level of protection.

Some who campaigned against the N95 and fit testing distorted the debate by setting up a straw man to knock down. They suggested inaccurately that the N95 and fit testing had been held up as the magic bullet against SARS. No one ever said the N95 and fit testing were magic bullets.

No one ever said that fit testing "is the answer." Yet those who campaigned against fit testing did so on the inaccurate basis that those in favour of fit testing said it was the answer. One hospital expert who wrongly insisted that no Ontario law required fit testing put it like this:

> In SARS, both myself and many of my colleagues believe that fit testing is not the answer to protecting health workers.[1001]

To the Commission's knowledge, no expert in worker safety suggested that the N95 respirator or fit testing were the be-all and end-all to containing SARS. No expert in worker safety believed the N95 respirator or fit testing could, or should, be singled out as ends in themselves.

[1000] Institute of Medicine of the National Academies, "Reusability of facemasks during an influenza pandemic: facing the flu: report brief" (April 2006), http://222.nap.edu.

[1001] Michael Gardam, Fit testing memo, June 2003.

These attacks on the N95 and fit testing, this focus on one component only of the hierarchy of safety controls so absent from Ontario hospitals during SARS, is just one more piece of evidence that the health system during SARS lacked a basic understanding of worker safety principles.

Safety experts regarded N95 respirators and fit testing not as magic bullets but as simply one part of a respiratory protection system that should include:

- A hazard assessment of the workplace
- The selection of appropriate respiratory protection based on the hazard assessment
- Health assessment and ongoing surveillance of respirator users
- Fit testing
- Initial and ongoing training and education[1002]

Perhaps the most important respiratory protective lesson from SARS is the importance of focusing not just on one protective component, whether it's the N95 respirator or fit testing. To return to the title of this chapter, it's not about the mask; and it's not about fit testing. It's about a whole system of safety controls in which the respirator and other personal protective equipment are simply the last component, the final line of defence.

That bigger safety system, of which the respirator is just one small part, is known as the hierarchy of controls. It is a fundamental principle of the worker safety discipline of occupational hygiene.[1003] Among these controls, personal protective equipment is the last line of defence, not the first:

> … all available options for controlling the hazard should be put into place and that when these controls are not possible or not sufficient to control the risk, personal protective equipment such as respirators should be implemented. The hierarchy of controls is as follows:

[1002] Healthcare Health and Safety Association, *Respiratory Protection Programs*, pp. 15-16.

[1003] Occupational hygiene, which is often called industrial hygiene in the U.S., is defined as follows: "The science and art of anticipating, recognizing, evaluating, and controlling chemical, physical, biological, ergonomic hazards that are in or originate from the workplace" (Salvatore R. DiNardi and William E. Luttrell, *Glossary of Occupational Hygiene Terms*, [Fairfax, VA: American Industrial Hygiene Association, 2000], p. 106).

1. Engineering controls
2. Administrative controls
3. Work practices
4. Personal protective equipment.

These controls are meant to address hazards through control at the source of a hazard, along the path between the worker and the hazard and lastly, at the worker.

Controls that are implemented at the source should be put into place first. These include using engineering controls such as enclosing the hazard or using local exhaust ventilation. An isolation room with negative pressure ventilation is an example of an engineering control aimed at the source of the hazard.

Controls that are implemented along the path should be put in place next. These include general exhaust ventilation or the use of shielding or barriers.

Administrative control and workplace practice controls are also critical. These controls include such program components as processes to ensure early recognition and appropriate placement of patients who are infectious, surveillance for detection of outbreaks, adequate cleaning and disinfection of patient care equipment and the environment and education programs for health care workers about identifying and managing risk.

If, after implementing controls at the source and along the path does not eliminate the worker's risk of exposure, then controls at the worker can be put in place. These include the use of personal protective equipment such as respirators and eye protection.

The essential point from the hierarchy of controls is that employers should not rely exclusively on personal protective equipment (PPE) to protect workers. All other means of control should be used to protect workers and PPE used only when other controls have not eliminated or reduced the hazard significantly.[1004]

[1004] Healthcare Health and Safety Association of Ontario, *A Guideline for the Development and Implementation of a Respiratory Protection Program for the Prevention of Occupational Infections in Health and Community Care Workplaces – Final Draft*, (Toronto July 23, 2003), p. 11.

Worker safety principles like the hierarchy of controls are not new. They had been developed long before SARS. Worker safety experts knew how to use these systems, these processes, these procedures and this equipment to protect nurses and other health workers.

As Health Canada noted in a worker safety manual issued in 2002, close cooperation between worker safety and infection control is essential for the safe operation of a health care facility. Health Canada's *Prevention and Control of Occupational Infections in Health Care* says:

> A component of the [worker safety] program relates specifically to infection control and must be planned and delivered in collaboration with the Infection Control (IC) program of the workplace ... This document supports the close collaboration of OH personnel with those responsible for the IC program … It notes the essential collaboration of both groups working together where responsibilities overlap, especially in the management of outbreaks.[1005]

Tragically, this knowledge was not used during SARS. This expertise was ignored.

As one hospital said in its submission to the Commission:

> It was interesting to note that an occupational hygienist was part of the CDC team called in to help review how SARS was being spread; earlier recognition and utilization of local professional resources (e.g. through the Canadian Registration Board of Occupational Hygienists, the University of Toronto graduate program in occupational hygiene, etc.), may have helped contain the problem much sooner.

It is time for Ontario to stop the turf wars and remove the barriers that prevented the use of this expertise during SARS to protect health workers.

[1005] Health Canada. *Prevention and Control of Occupational Infections in Health Care: An Infection Control Guideline* (Otawa: Health Canada, 2002), p. 1.

Progress Since SARS

Some experts who campaigned during SARS against fit testing have come to accept that any worker required to wear an N95 respirator should be fit tested as required by law.

One infection control expert who opposed fit testing said after SARS:

> … if you need an N95 mask, it should be fit tested and that's one issue, and I don't think anybody's going to argue with that anymore.

A senior Ministry of Labour official who bore the brunt of the hospital establishment's opposition to fit testing told the Commission that the climate has changed:

> I think they have moved on. Now the question you get nowadays is when should you use the N95? One doesn't have the same resistance to fit testing. The big question is when do we need N95s.

Part of the change of heart may be due to the large number of post-SARS studies in support of fit testing.

Representatives of health workers, however, have detected continuing resistance to fit testing. They have:

> … participated in many government round tables that have discussed personal protective equipment during a response to an outbreak. We have been told the science of respirator fit testing is not perfect, and thus fit testing does not guarantee that a respirator will be completely effective in protecting against airborne hazards. While this seems to be news to the MOHLTC, the occupational health and safety community has long been well aware of this. The response of safety professionals and researchers is to strive to improve fit testing, not abandon it.[1006]

[1006] Letter from ONA to Premier McGuinty, December 15, 2005.

As noted earlier, the current Chief Medical Officer of Health has taken steps to try to bridge the wide gulf separating infection control and worker safety. However, only time will tell whether her efforts will bear fruit.[1007]

Conclusion

Those in charge of the system that failed to protect health workers during SARS undoubtedly acted in good faith. But during most of the outbreak they were regrettably unaware of their occupational safety obligations under Ontario law. They were unaware until reminded late in the outbreak that when health workers have to use N95 respirators, employers must ensure that the respirators fit properly and that health workers are trained in their limitations and safe use. This has been Ontario law since 1993.

The Ministry of Labour may have acted in good faith, but it did little until late in the SARS outbreak to proactively inspect health care workplaces to ensure that health workers were using the appropriate respiratory protection and were properly trained in its use. The absence of the Ministry of Labour was especially significant because the health care system had little experience or expertise in N95 respirators or the respiratory protection programs necessary to ensure that N95s safely provide their intended level of protection.

The fact that about 45 per cent of all SARS cases were health workers demonstrates how badly respiratory protection and other worker safety issues were handled.

The primary role of occupational health and safety laws, regulations and systems is solely to protect workers in many workplaces.

[1007] Dr. Sheela Basrur notes in her letter of March 9, 2006, to Ms. Linda Haslam-Stroud, RN, President, Ontario Nurses' Association:

> We recognize the need to ensure that the perspectives of occupational health and infection control receive consideration. In light of this, an occupational health physician is included in the membership of PIDAC and has been sitting on the committee since the inception of PIDAC in 2004. However, we see the importance in continuing to strengthen our links with the occupational health field and a physician delegate from the Ministry of Labour is now also sitting on PIDAC. This highlights our commitment to ensuring that occupational health and safety expertise is brought to the table during all PIDAC deliberations now and in the future. We are confident that building on this approach will assist in ensuring stronger linkages between occupational health and infection control on matters of science.

In health care settings, occupational health and safety protections perform a double duty, safeguarding workers while also shielding patients and visitors.

As the Ontario Nurses' Association and the Ontario Public Service Employees Union told the Commission in their joint submission:

> Workplace health and safety is important in any workplace, but in a healthcare environment it's doubly important. If workers are not protected from health and safety hazards, patients and the public are not protected either. It's that simple.[1008]

Scientific knowledge changes constantly. Yesterday's scientific dogma is today's discarded fable. When it comes to worker safety in health care, we should not be driven by scientific dogma. We should be driven by the precautionary principle that reasonable steps to reduce risk should not await scientific certainty.

Until this precautionary principle is fully recognized, mandated and enforced in our health care system, nurses and doctors and other health workers will continue to be at risk from new infections like SARS.

1008. SARS Commission Public Hearings, November 17, 2003.

Did Politics Intrude?

There is widespread suspicion that political and economic pressure affected Ontario's response to SARS. Union officials, nurses, doctors, people who fell ill, families of those who died asserted again and again their feeling that someone, somewhere, somehow, exerted pressure to minimize or hide SARS, or not call a SARS case SARS, or declare SARS over because of its devastating effect on the economy.

Those who assert these suspicions point to the timing of the World Health Organization travel advisory imposed against Toronto on April 23, 2003. The advisory was lifted on April 30 only after high-level political intervention by the Minister of Health, who flew to Geneva with public health officials. That was followed in mid-May by the relaxation of precautions, the new normal, announcements that SARS appeared to be over and that the health system and the economy could return to business as usual. Those who assert this view point to the disastrous May 23 news conference where news of the second outbreak was pried out of officials only in the face of skilful cross-examination by the media. They also point to the patients at North York General who had SARS in April and May, although the hospital and public health officials failed to diagnose and disclose these cases as SARS.

The suspicions, with one exception, are unfocused and unspecific and they name no names or events or alleged events or conversations or documents. Some who hold these suspicions point to politicians or government in general terms; others point to hospitals or public health or physicians.

In all the interviews and documents and investigations, only one specific allegation of pressure emerged, not that there was pressure to hide SARS, but that there was pressure to back off an investigation into health worker safety. The allegation surfaced during the followup interview of a confidential source that the Ontario Cabinet Secretary, as the result of a phone call from the CEO of Mount Sinai Hospital, directed the Ministry of Labour to cancel a worker safety investigation scheduled for Mount Sinai on June 13, 2003. Immediately upon receipt of this late-breaking allegation, the Commission interviewed 13 witnesses, some more than once, and examined documents that included contemporary emails, memoranda and various government and hospital paper trails obtained by way of subpoena. The results of this investigation are found in Chapter Three, under the heading "June 13 Cancellation at Mount Sinai," and do not form part of this chapter.

As for the persistent yet vague suspicions of improper political and economic pressure, the Commission noted in its first, 2004, interim report that it had at the time of writing found no evidence of political influence on public health decisions:

> The Commission on the evidence examined thus far has found no evidence of political interference with public health decisions during the SARS crisis. There is however a perception among many who worked in the crisis that politics were at work in some of the public health decisions. This perception is shared by many who worked throughout the system during the crisis. Whatever the ultimate finding may be once the investigation is completed, the perception of political independence is equally important. A public health system must ensure public confidence that public health decisions during an outbreak are free from political motivation. The public must be assured that if there is a public health hazard the Chief Medical Officer of Health will be able to tell the public about it without going through a political filter. Visible safeguards to ensure the independence of the Chief Medical Officer of Health were absent during SARS. Machinery must be put in place to ensure the actual and apparent independence of the Chief Medical Officer of Health in decisions around outbreak management and his or her ability, when necessary, to communicate directly with the public.[1009]

The first interim report also said:

> … the Commission has not at this stage of its investigation found any evidence of political interference with public health decisions during the SARS crisis. There is however a perception among many who worked in the crisis that politics somehow played a part in some of the public health decisions. Whatever the ultimate finding may be on this issue, Dr. D'Cunha's approach left too many colleagues with the perception that he was too much a political animal and too little an independent public health professional.

[1009] SARS Commission first interim report, p. 56.

> It is impossible to say, in the end result, that Dr. D'Cunha's difficulties made any ultimate difference in the handling of the crisis. Although his colleagues were frustrated by his approach to things, the crisis was to a large extent managed around him. It is hard to say that the overall result of the SARS crisis would have been different with someone else at the helm.[1010]

The Commission noted similarly in its second, 2005, interim report:

> While the Commission has not, to date, found any evidence of political interference during SARS, the problem is that many people suspected political interference and many were convinced that politics were at work behind public health decisions. The mere perception of political interference, whether true or not, will sap public confidence and diminish public cooperation.[1011]

This section will deal with:

- The nature and content of the suspicions;
- the evidence of key witnesses, such as the Premier and the Minister of Health, who would have been in a position to exert influence; and
- the evidence of key witnesses such as public health, hospital officials and physicians who would have been in a position to observe any influence.

The conditions that fostered such suspicions include:

- the timing of the travel advisory and its lifting, followed shortly by the relaxation of precautions and the "new normal";
- the intense desire of everyone in the health system and the community, exhausted and weary of SARS and at the end of their tether, that SARS should be gone, and their fervent hope that it was in fact gone;

[1010] SARS Commission first interim report, p. 55.
[1011] SARS Commission second interim report, p. 17.

- The regrettable perceptions created by Mayor Mel Lastman's outburst against the World Health Organization and the invocation by some officials in the office of the minister of health and the Chief Medical Officer of Health of the minister's name and authority when requesting information from front-line public health and hospital workers;

- The Commission's steps to investigate the suspicions of political and economic pressure; and

- The Commission's analysis and findings.

These suspicions of political and economic pressure on public health and hospital decisions in order to protect the economy and hospital finances have two common elements. First, they are strongly held by those who hold them. Second, those who hold them are unable to point to any evidence to support their suspicions.

The suspicions were voiced by a health union leader in the context of the WHO travel advisory, its effect on the economy and the political effort to reverse it:

Answer: Quite clearly economic interests took over at an early stage. Quite clearly doctors put pressure on authorities to get back to normal … The business community started to get on board and economic interests took priority here and the whole health and safety of members took a back seat with the WHO advisory in April. The whole thrust of trying to get it reversed centred around economic factors.

The ball was dropped in the middle of May. [Minster Tony] Clement sent out the signal that the crisis was over and then we have the second outbreak. North York General, St. John's and the Whitby wing of Lakeridge Hospital.

My concern is that the economic interests predominated at expense of health and safety of members.

Question: How does one prove it? … How can you prove it was linked to economic reasons?

Answer:	Why was the whole thrust of the provincial government centred around getting that advisory lifted? That was the sole preoccupation of the Minister of Health. His job should have been to protect the health and safety of the people in the province and they didn't do that.

The suspicions in the context of hospital's finance were expressed by two nurses at North York General:

> There was a lot of pressure from the media, from the politicians, from the business community, that the city was going to lose so much money and all I kept thinking was how much money will they lose if this gets out of control …
>
> The whole thing was being kept hidden because they were afraid of a panic, afraid of the impact on the economy …

As noted elsewhere in the report, one North York General emergency room nurse said she thought there was tremendous pressure to downplay SARS:

> … There was a tremendous pressure on the politicians from the business community, or perceived pressure, to downplay the danger of SARS. That the danger was to downplay it to the staff who were looking after the patients. And to put the staff at risk. And to put all of the community at risk because you're not containing it strictly.

These suspicions were voiced at the public hearings by Dr. Jan Kasperski, Executive Director and CEO of the Ontario College of Family Physicians:

> Bowing to political pressure, the new normal was put into place, mostly to reassure tourists that Toronto was open for business.[1012]

Dr. Kasperski continued with a thoughtful analysis of the lack of support given to front-line family physicians by the health system, but he pointed to no evidence to support a suspicion that the "new normal" resulted from political pressure to reassure tourists.

Although these witnesses were convinced that economic and political pressures were somehow at work, they were unaware of any actual evidence of such pressure. Also unaware of such evidence was a doctor at North York General who held similar suspicions:

[1012] SARS Commission Public Hearings, September 29, 2003.

Question: Did you sense that SARS had gone away and wasn't a problem?

Answer: I didn't think it had gone away. There was, well, significant if you would political pressure to relax the protocols and restrictions, my personal opinion obviously, but with trying to get Toronto off the WHO travel advisory.

Question: What do you mean by political pressure?

Answer: If you were aware of the media, there was pressure because of the way it affected Toronto coming into the summer, to get Toronto off the WHO travel advisory because of the, if you will, the political, economic effect it was going to have. There was this will to have SARS go away and be declared resolved. And the impression that it started at a public health, governmental level rather than within a particular hospital …

Question: On the question of political pressure, which means different things to different people, we're obliged to see if there was any actual evidence of political pressure. Do you know of any actual evidence of political pressure?

Answer: Exerted by politicians? No, I'm not aware of that. I know that there was a will, if you will, a general will in the community to have Toronto declared SARS-free, you know?

The doctor's observations are significant for two reasons. First is the assumption that underlies most suspicion of pressure, the assumption that the relaxation of precautions and the new normal and the announcements that Toronto was open for business, because they followed so closely the economic disaster of the travel advisory and the political effort to have it lifted, must have been connected to them.

The second reason the doctor's observations are significant is that as soon as he thought about what he meant by "political pressure," he crystallized his suspicion into the proposition that there was a general will in the community to have SARS over and to be SARS-free.

This doctor's insight goes a long way to explain the widespread suspicion that there was political and economic pressure to say that SARS was over. The doctor is correct that there was a general will in the community to be SARS-free. Everyone wanted SARS to be over. Politicians, health officials, emergency officials, nurses, business people, doctors, hospital officials, paramedics, patients and everyone touched in any way by SARS wanted it to be over and gone.

Front-line workers were exhausted. The restrictions of masks, the constant changing of gowns and gloves, the inability to breathe easily through the N95 respirator, the total disruption of hospitals – indeed, the terrible disruption of every health system workplace and every health worker's daily tasks – their inability to fulfill their professional calling and give patients the kind of personal care so disrupted by SARS, the inability to treat cancer and cardiac patients who needed medical care: All this and more created a profound sense of frustration and a strong desire for a SARS-free return to the normal work of caring for the sick.

There may for this reason be a sense in which the wish is fodder to the thought, a sense in which people throughout the system created in themselves their own pressure to believe that SARS was gone.

Reasons for Suspicion

The perception that SARS was politically driven arose principally from two circumstances:

- The trip by the Minister of Health and senior officials to Geneva to secure the reversal of the WHO travel advisory.
- The coincidence in time between the lifting of the WHO travel advisory on April 30 and the lifting of the emergency and the proclamation of the new normal in mid-May, based on the belief that SARS was gone.

The evidence that the Geneva trip and the lifting of the emergency and the proclamation of the new normal were not politically motivated is noted in this section. This evidence is uncontradicted and the reasons for considering it plausible are reviewed below.

There were also less prominent reasons for the perception, including:

- The perception that the office of the Chief Medical Officer of Health was within the political sphere of the Minister of Health, a perception fostered by the invocation of the Minister's name by some officials when asking for operational information of a medical nature.

- The bizarre attack by the Mayor of Toronto on the World Health Organization, combined with the economic boosterism of some public announcements that SARS was over.

- The intergovernmental bickering, particularly the partisan-sounding attacks by the Ontario government on the federal government.

This is a convenient place, before turning to the major reasons for the perception, to deal with these issues.

The Minister's trip to Geneva and his reasons for it were fully in accord with the thinking of the public health and public service professionals whose advice he accepted throughout the crisis. They were convinced that the WHO decision was wrong and was based on inadequate medical and scientific information. Because of the structure of the WHO, in one sense an international political organization, the only way to bring these scientific and professional concerns to its attention at the highest level was an intervention at the political level by the Minister of Health. There was nothing inappropriate in the Minister taking this step in accordance with the views of the public health and scientific leaders.

As for Mayor Lastman's outburst against the WHO,[1013] little need be said except to emphasize that public communication during a public health crisis should be thoughtful, measured and nonpolitical.

As for the economic boosterism of some public announcements that SARS was over, it must be remembered that every level of government was properly concerned not only with the health problems posed by SARS but with its economic devastation. There is nothing wrong with economic recovery measures so long as they do not influence public health decisions or public disclosure of an infectious risk. The remedy against any political interference that might flow from economic recovery measures is not to discourage such measures. The remedy is to ensure, as recommended, the scrupulous structural separation of politics and infectious outbreak management.

[1013] "Where did [the WHO] come from? … They sit somewhere, I understand Geneva, I don't even know where the hell they came from, but Geneva or someplace and they make decisions..." – Mayor Mel Lastman, at a press conference, April 23, 2003.

As for intergovernmental bickering, the Commission in its first interim report noted the bad provincial-federal communication that impaired our response to SARS and the need to avoid it the next time we are faced with such a crisis. The Ontario government never lost any opportunity to criticize the federal government on any issue, from airport screening to financial compensation. The provincial attacks seldom appeared constructive and smacked at times of gratuitous "fed-bashing." Nothing displays this anti-federal bias more than a curious document received by the Commission at the beginning of October 2003, in the last days in office of the Eves government, purporting to be a brief submitted on behalf of the government of Ontario.[1014] It consists of a lengthy partisan attack on the federal government's SARS activity. Although disavowed by the Premier and the Minister of Health as any reflection of the position of their government, it does reflect within the ranks of senior government advisors a deep hostility to the federal government and a reluctance to miss any opportunity to blame things on it.

Although an element of healthy tension is inevitable in Ontario's relations with the federal government, there is no room during a health crisis to indulge in this ritualistic intergovernmental bickering. As noted in the Commission's first interim report, it is essential for governments during a public health crisis to resist their natural temptation to criticize each other. It is imperative for governments in a crisis like SARS to rise above their traditional bickering and work together in the wider public interest.

The unnecessary invocation of the Minister's name by some within the office of the Chief Medical Officer of Health, when asking for operational information or giving operational directions, created in some quarters a perception that the operational response to SARS was politically driven. While there is no evidence that this was the case, it does emphasize the importance of a clear line between what is public health and what is politics. The government has started to clarify this line in legislation according a measure of political independence to the Chief Medical Officer of Health. This important process will remain incomplete until the government implements the balance of the Commission's earlier recommendations in this respect and in respect of the independence of local medical officers of health.

[1014] Although the document is marked "Confidential," the Commission did not solicit the document in any way, did not receive it under any promise of confidentiality and acknowledges no basis on which this government submission should be considered confidential. It will form part of the Commission's record of public documents transmitted to the Ontario Archives.

One similar factor that may have contributed to a blurring of the lines between politics and public health was the special role of Michael McCarthy, a senior political aide to Health Minister Tony Clement. He was perceived to be very close to Dr. Colin D'Cunha, the Chief Medical Officer of Health, and to involve himself from time to time in operational matters. There is no suggestion of wrongdoing on his part and the Commission makes no criticism of Mr. McCarthy.

The problem was not so much the role of any particular person but that the dividing line between what is political and what is public health was not made as clear during SARS as it should have been. It would be wrong to treat any public health crisis as just one more "hot potato file" to be carried and managed politically by those in the Minister's office in the same way as physicians' fees or hospital funding. Public health crises, for all the reasons given above and in the Commission's interim reports, require the utmost public confidence that no political consideration can or will interfere with medical public health considerations by the Chief Medical Officer of Health.

One way to ensure a bright line between politics and public health, so essential to public confidence, is to ensure that ministerial aides stay clearly on the Minister's side of the line without appearing to become players in their own right in the operational response to a public health crisis. The government has taken steps in the right direction by giving the Chief Medical Officer of Health a large measure of independence. Further steps need to be taken in this direction, as recommended in the Commission's interim reports in respect of the role of the Chief Medical Officer of Health and the local medical officers of health.

Evidence of Premier and Minister of Health

The question of economic motivation and political pressure were put to Premier Ernie Eves and Minister of Health Tony Clement.

Mr. Eves said that the government's approach to SARS was to avoid politics and act on the advice of public health and public service professionals like Dr. James Young and Dr. D'Cunha and to back them up:

> I made a decision rightly or wrongly at the outset that this was not, that people should not be playing politics with this issue. I felt that it was far

> too important an issue. It went right to the safety and health of Ontarians. So I purposely took a role that was not in the limelight; I did not go to appear before TV cameras every day. I thought the best thing we could do is hire the best medical and scientific brains we had or obtain them from other jurisdictions if we did not have them and empower Dr. D'Cunha, Dr. Young and others to I regarded this as a medical and scientific problem and I would like to think that is the way that it was handled. I am sure in hindsight there are always things that we think of that human beings could have done better, but I really think that we approached this on that basis …

The Premier's Chief of Staff said:

> From day one, the first day was a Wednesday, I think, of SARS I, the message back to Drs. D'Cunha and Young was, whatever you need, you got.

And the Premier added that his message to take away was:

> And the cost, we will sort out how we pay for it later.

Mr. Eves said that on May 17 he accepted with some reluctance the advice of public health officials to lift the emergency, and only after he asked repeatedly:

> Are you absolutely positive that this is the right thing to do, that we are getting the right information, are you sure this is all right?

And only after he received repeated assurances from Dr. D'Cunha and Dr. Young that the absence of new cases and the advice of medical and science advisors warranted the lifting of the emergency:

> I think that they really, from their best judgment, and from what they knew at the time, felt that it was the right thing to do. I have tremendous amount of respect for the abilities of both Dr. D'Cunha and Dr. Young. I cannot perceive either one of them ever doing something that was expeditious as opposed to appropriate or correct and I think that they acted in their best judgment.

In respect of his overall role as Minister of Health in the SARS crisis and his approach to it, Mr. Clement said:

Mr. Clement: Basically I was the point guy from the government of Ontario's perspective and then had to create a management structure for Drs. Young and D'Cunha that would allow each of them to do what they had to do under their respective acts, and get the job done …

I believe that the Minister has to be very much involved with the organization of dealing with the medical emergency. Very much has to be involved in all major decisions, has to vet all major decisions, very much has to be involved with the communication to the public on a regular ongoing basis and has to be involved with ensuring that whatever is done, whatever is decided upon is implemented, that there is avenues by the stakeholders, the nurses, the doctors, the public health officials, all these avenues to, if there is something going wrong, they have to be able to talk to the Minister about it. It cannot just be the hierarchy. So that's how I conceived my role and I believe that it was the appropriate definition of my role …

I was involved at all levels. I would be a frequent participant in the POC [Provincial Operations Centre] meetings. I would be an occasional participant with Dr. D'Cunha at his initial meetings and I was a frequent participant with the conference calls with the Premier's office and the Cabinet office and that was just the formal meetings. Then there were informal meetings that took place throughout the day and night on an as-necessary basis where I was more often involved than not. I was up to my eyeballs in it. I believe that that is the appropriate role. In terms of the communications, I believe we had something like 47 press conferences, and I was involved in over a dozen of those, so I was not an intrusion but where and when necessary to put an elected, empathetic face that was not a doctor but was suffering with the rest of us, I was there. I was there to communicate major messages such as over the Easter weekend, when we were afraid of community spread, as well as interact frequently

	with my federal counterpart, which fortunately was a very strong relationship, a very positive relationship. So, that's the role that I played …
Question:	Is there a risk here that the whole issue becomes too much of a political issue?
Mr. Clement:	No I think we were quite at pains to make sure that did not happen, actually. I was conscious of that issue. There is an ingrained check and balance on that, which is if you are seen as exploiting this issue for political purposes, you are absolutely crucified and rightly so. That is an ingrained check and balance on that, and I was quite at pains to make this as nonpolitical as possible. I insisted that the Opposition health critics be briefed …

As for the decision to travel to Geneva to seek withdrawal of the WHO travel advisory, Mr. Clement said:

> Can I just say one thing about the WHO on the politics front? The reason that I went along was because I wanted Dr. Brundtland, head of the WHO, Director General, a former Prime Minister, a former politician, I wanted her to see the whites of my eyes. It's one thing for public health officials to go over there and say don't worry, everyone is on side, we've got everything under control, we'll do whatever you ask us to do. The public health officials can say that, but she would want to know that there is political will, that the politicians understand how serious this is, and that the politicians are willing to do what's necessary to meet the concerns of the WHO, which as it turned out hinged on the borders. That was the only outstanding issue. We've convinced them that the disease was not being communicated in the community and we've convinced them that our infection control was working in the hospital setting such that our rate of new infections was radically down.
>
> So the only issue we faced in Geneva really was in federal responsibility and we were able to give them the assurance because I had worked with Anne McLellan on the ground in Geneva to give them the best of assurances. I wanted her to see the whites of my eyes. I thought that it was important for her to know that the politicians were engaged and that we

> knew that if we failed that, it was not only a failure in our own community, if this thing got exported to the Third World, this could be a potential catastrophe of unimaginable proportions, and I wanted her to know that I knew that. Because she had a responsibility to the world. She had the responsibility of making sure that this didn't come to South Africa, or didn't come to India, or didn't come to some place that didn't have the public health infrastructure that we have.
>
> So that's why that was important, but I did not make the argument based on politics. I made the argument based on facts. I said, here is our rate of infection, here is our rate of community spread, here is what we are going to do with the federal government when it comes to border crossings. Please make the decision based on the facts, Director General, don't make the decision based on other extraneous factors, including politics. The facts were on our side, so this was not a political appeal, it was a factual appeal to the facts on the grounds on that day on April 30th rather than where they were on April 18th. Sorry, I wanted to get that point out because it was most definitely not a political gesture, it was a strategic gesture to convince her in the language that she would understand, factual language, and also as a former prime minister respecting that politicians have to be accountable and have to be part of the solution, and not just public health officials.

As for the government's approach to public disclosure of SARS risk, Mr. Clement said:

> Very early on, I decided, you have to make a decision, you have to make a decision how you're going to treat this with the public, and there is always advice, and I did receive advice to play it down, there is no issue, there is no problem, we got a little problem at Scarborough Hospital, let's not create a sense of panic in the public. I rejected that advice to this extent, I believed that what would create a greater sense of panic in the public is a lack of information given the fact that death was occurring.
>
> And so very early on, even before the state of emergency was issued, I made a deliberate conclusion that we were going to give the public as much information as we had on a real-time basis, even on a daily basis, in order that they knew exactly what we knew, and Dr. [Richard] Schabas has been critical of that, but I think that it was the right thing to do.

> And I would do it again, because the alternative is to hide information from the public, and I think that would actually create more of a problem. It would create a problem of credibility with the government and the public health officials, and it would create a problem of assuming far worse than potentially was the case, which would actually fan panic rather than actually contain the panic. So yes, guilty as charged, we communicated with the public at every available opportunity and I think that was the right thing to do.

The Commission asked Mr. Clement about his state of knowledge before the disastrous May 23 press conference where the facts of the North York General outbreak emerged only under media cross-examination of Dr. [Donald] Low. Mr. Clement said that going into the press conference, he was aware of a few cases but not of the magnitude disclosed by Dr. Low, who had arrived directly from the field a few minutes before the press conference without telling the Minister or the other government officials what he later told the media:

> Question: So going in to the press conference, had you had any kind of a briefing from any of the officials as to what might be happening?
>
> Mr. Clement: Well, we usually have a briefing before every press conference, and we did so in this case, but it was literally a couple of minutes of briefing, because he had just arrived in time, as I recall, this is my recollection now. And so he didn't, he didn't tell us any of this during the time before we were working on our speaking notes for the press conference. So it was news to us.
>
> Question: And so do you recall what your understanding of the situation was prior to hearing him respond to the media question?
>
> Mr. Clement: Well, we had a few cases, but not in the magnitude that he was expressing.

As for the existence of any pressure to declare SARS over prematurely, Mr. Clement said:

Question: Was there a pressure that you could feel that grew during April as far as the WHO travel advisory and the issues that arose out of that, to be able to declare this victory?

Mr. Clement: I am glad that you mentioned that. I never felt any pressure from inside the government. There was certainly pressure from the media, and I thought to myself as the cases declined, I thought, you know, they are going to start to ask me whether this is over, and I would be the craziest health minister alive to declare this as over. You could go through every single tape and interview I did of where I was asked probably a dozen times on TV, is this over? My response was exactly the same. In early May, which is after the travel advisory, I said no, this is not over; we have to continue to be vigilant.

There could be a recurrence, so our jobs continue to ensure that we have the right procedures in place in case there is another outbreak of this or any other communicable disease. I said that ad nauseam because I knew that if I ever declared it over and it wasn't over, I would be strung up from the nearest lamp post, I knew that as a politician, as well as a human being, I knew that. So, I never declared it over. Never, ever, ever, in my discussions with stakeholders, with the media, with the POC, with the Premier, I always said we have to be continually vigilant because this may not be over.

Question: Why do you think you were getting the sense that the media was putting pressure on you? Was it a new turn in the series of stories for them?

Mr. Clement: I think there is a notion to want to declare something, they wanted to get on to other things institutionally, so yes, they were waiting for somebody to declare it over, sure. But it wasn't me.

Question: Did you get a sense that those who were working on the issue had the same view as you did? Were there people in there in that group that were also feeling pressure or creating pressure?

Mr. Clement: No, not at a senior management. No. Evidently, this is human nature, people on the ground wanted this, there is a normal human reaction to think that this is over and now we could get back to normal. My point to them always was we will never get back to normal, that is why I'm the one who coined the phrase "the new normal." At a Science Committee meeting, I said we had to get a new normal because we were never going back to normal but we were in the midst of creating the new normal when the second outbreak obviously occurred, but I got a sense after the fact, after the second outbreak, that human nature did its thing again and there were some people potentially who may have let their guard down because they thought that it was over. But they never got that signal from me, or I never got that feeling from anyone in the senior management group.

Question: Now the senior management group is?

Mr. Clement: I mean the POC, Dr. Young, Dr. D'Cunha, Phil Hassen …

…

Question: Did you sense pressure? You mentioned the media. What about the hospitals themselves, the doctors?

Mr. Clement: They were desperate to get back on track. Their queues were lengthening and that is how doctors get paid. The hospitals obviously wanted to get out of the situation where every hospital in the GTA [Greater Toronto Area] was in restricted access. Obviously we handled the second outbreak in a different way. Having learned a little bit, we learned that it is easy to shut down a hospital but not so easy to boot them back up again. It is a very complicated task, actually. So I would say the hospitals and doctors wanted to get back to normal, as quickly as possible at which point I would say to them, remember, we are never going back to normal we're going to a new normal of infection control, the likes of which we have never seen before but yes, sure we want to normalize the new normal as soon as possible.

Question: Was there a sense of pressure from the federal government?

Mr. Clement: No, to be fair, no I wouldn't say that. They were not that close to the ground to even make that suggestion, I wouldn't think.

Question: What about the city? Business community? Were you sensing anything coming?

Mr. Clement: I was sensing that everybody wanted this to be over as soon as possible but again, it is not as if I had a conversation or a meeting X on day Y where the mayor said to me, get on with it, nothing like that that you could, I guess it was through the media that you got a sense that people wanted to be over this, and we all did, but we knew that there had been recurrences in other, a recurrence in Singapore, a recurrence in Taiwan, the situation in China wasn't under control yet, so I made it pretty clear that we will not do anything in haste that we would regret later. I felt pretty clear about that.

Question: There is certainly concern expressed to us, and it often does not have specific genesis, but that it was economics that drove this from about the WHO travel advisory on.

Mr. Clement: Yes, that is not true.

Question: They will say that you sent the signal. You obviously didn't send a direct signal. I think that they are taking your participation in response to the WHO has been a signal, that it was the economics of it that drove you to take a higher public profile at that point in time?

Mr. Clement: No. I went there I went to Geneva because they had to hear the facts from a combination of public health officials and elected officials and I wanted them to make a decision based on the facts, so no, that is not true.

When I say pressure, I was aware that people wanted this to be over, but it is like being aware of the weather. Just because they wanted it to be over does not mean that it is going to be over. I want to make that absolutely clear. It is not as if it had any influence in my decision making whatsoever. In fact, quite the opposite, because I saw the danger of declaring prematurely that it was over and I was absolutely committed to not declaring premature victory, so I want to make pretty clear that fact outlined and highlighted to me why we could not declare prematurely that the war against SARS was over.

This evidence from the Premier and the Minister of Health, as noted below, is uncontradicted. There is no evidence in any document or from any witness or confidential informant interviewed by the Commission to suggest the contrary of what they assert in respect of the lack of any political pressure to hide or downplay SARS or to say prematurely that it was over.

Their evidence is plausible because, for reasons expanded on below, it would be political suicide for anyone in their position to attempt to hide SARS or to exert influence to secure a premature declaration that SARS was over.

Evidence from Senior Officials

The Commission interviewed many senior officials with the Provincial Operations Centre, the Ministry of Health, the Science Committee, hospitals and Public Health who were in a position to see the exertion of political influence if it existed. Some of them were quite properly irritated by the invocation of the Minister's name by some of those associated with the Chief Medical Officer of Health when requesting information from the field. But not one of them recalled any form of political pressure to hide SARS or to say it was over when it was not. All of them said that their message from the Minister of Health and the Premier was that the government stood ready to do whatever was necessary and to commit whatever resources were necessary to assist the professional public health management of the SARS crisis. All say that there was no political pressure to minimize or hide SARS, to say that cases were not SARS, to say prematurely that SARS was over or to hide the second outbreak.

Their evidence is typified by this comment by one of the most senior government officials involved in SARS:

> The politicians were amazing. They had not a minute of doubt or criticism of our work. When SARS II broke out they said it was "too bad" and "do what you have to do to get it under control." The politicians led. The premier said, "Fix it. Do what you have to do. You have the resources." They never second-guessed or made political decisions. The politicians got out of the way. They made exactly the right decision to let the professionals run it. We received nothing but encouragement and pats on the back.

This observation is typical of all responses by those who dealt with the political reaches of government, and these responses support the evidence of the Minister of Health and the Premier.

Evidence from the Health System

Typical of the evidence from hospitals is this account from one of the most senior administrative physicians at North York General in charge of the SARS response:

Question:	Some have said that there may have been a combination at play provincially, that there was a disincentive to declare cases to be SARS because of economic impact, political impact. You recall the WHO travel advisory and a contingent of politicians and others off to Geneva to try to persuade them otherwise, and WHO in late April dissolved it. After that point in time, was there a disinclination at all levels to call

something SARS because of the potential consequences? Did you ever sense that was becoming a factor in decisions?

Answer: I never felt any pressures about that. I never felt indirectly any pressures on the part of anybody I interacted with about that. You know, the calls were being made and I didn't get a sense that Toronto Public Health was saying, look, it's bad for the economy. They just didn't have an epilink and they didn't meet the criteria and they actually didn't meet the criteria, as identified at the time. So it wasn't like they met the criteria but let's not call it SARS. They didn't meet the criteria and it turned out not to be as black and white as that in hindsight, but at the time, the knowledge said you need an epilink. And you needed all three and they didn't have all three so they weren't SARS.

Question: Did you ever sense that, at any level, your level included or above, that there was political pressure being brought to bear on anybody?

Answer: I wasn't aware of any political pressure being brought to bear in our institution. I wasn't aware of any.

Question: Nothing caused you to wonder about it?

Answer: I read the news and listened to the news like everybody else. You know, we were hoping that SARS was over, and it would have been nice if it was, but if it wasn't, then we needed to deal with it. So it wasn't about trying to call it quicker than it should be. The question more pertained when people were discussing it about whether or not WHO was calling it right in terms of the travel advisory given that it seemed to be a hospital-based phenomenon. But I don't even remember when that discussion occurred. That might have been in SARS II when it became more clear. So I might be merging thought processes from three years ago together too close in time in retrospect. So I just,

> there wasn't a sense, as I look back at it, I don't have a sense that that really played into our interactions with the health care system, the ones that I'm aware of. I don't have any sense. After the fact, in SARS II, I didn't have a sense that that was the case either.

This evidence that there was no pressure to hide SARS or to say that SARS cases were not SARS or to declare SARS over prematurely is consistent with everything said by Ministry of Health and public health officials.

It is implausible to think that officials in the Ministry of Health would be able, even if they wanted to, to conceal a plan to hide SARS. This huge and complex ministry could not turn on a dime, and it was difficult enough for it to respond to the daily demands placed upon it by SARS, let alone to participate in some form of yet undetected secret pressure. It was all it could do to manage the systems and complex interactions with other levels of government, the federal government, the local public health agencies, the hospitals, and above all its many internal divisions, including the office of the Chief Medical Officer of Health and the hospitals branch. It is implausible to think that an organization so complex and so difficult to coordinate internally could successfully conceive, manage and successfully execute a conspiracy of silence to hide SARS or its return.

It was a frustrating time for many in the Ministry, and some of them expressed their frustration when dealing with front-line hospital people. One middle-level Ministry manager told a hospital official who contemplated closing a Toronto emergency ward in mid-April because of short-staffing due to SARS that "the Ministry has no appetite for more closings." It is clear from the entire conversation, including the fact that the manager backed off immediately when challenged, that he was not reacting to political pressure or expressing Ministry policy but simply venting a personal frustration shared by many in government and on the front line. Although the line between political pressure and personal frustration is objectively clear, expressions of personal frustration can easily be taken by outsiders already suspicious of political pressure as a sign that political pressure is at work.

Another natural response of front-line managers was driven by their desire for clarity and bright lines in the diagnosis of SARS despite the lack of a reliable or timely clinical test. One thing to fall back on was the epilink requirement before a SARS diagnosis could be made. As noted often in this report, the case definition for SARS set by Health Canada in conjunction with the Word Health Organization case definition required recent contact with a SARS patient or recent presence in a SARS-affected area like Hong Kong or China. Recent presence or actual presence at the time of diagnosis in a SARS hospital with SARS patients did not qualify as an epilink. If you had been to China, you had the required epilink, but if you were in North York General Hospital one floor down from the SARS ward, you did not have the required epilink. In hindsight this sounds counterintuitive, but at the time it was not only the standard generally accepted by every expert in the field but indeed the only standard there was.

One senior scientist at the centre of the SARS response, devastating in his criticism of Ontario's lack of preparedness, insisted nonetheless that it was science alone that drove Ontario's response to SARS:

> Science drove policy.

As noted in the section on North York General Hospital, the belief that SARS was over was not limited to North York General. The focus on recovery was universal. One Doctor, who held a prominent leadership role during SARS, agreed that although there was no pressure to say SARS was over, after the travel advisory there was a mindset that everyone wanted it over:

> Question: When it comes to the question of the relaxation in precautions, in hindsight you get certain people who say that it must have been a political decision, the guard must have been let down for economic reasons, and people say this and I say, well, how can you prove this and they say that it must have happened.
>
> Answer: No, there was no pressure that I ever saw to hurry things.
>
> Question: But was there a mindset that everyone wanted this to be over?
>
> Answer: Everybody wanted it to be over, and Carolyn Abramson in the *Globe* said that once they … things changed once they lifted the travel advisory, the travel advisory was a sort of a shift in the whole psychology in the city and all of a sudden everybody now was together. When the travel advisory came down, there was the City, the Province, Health Canada, everybody

> was outraged and fighting together, and then when they got the travel advisory turned back, everybody celebrated about that and once everybody were getting back to normal and everybody was ... that is part of why the lack of leadership. There should have been somebody who said ... nobody questioned it. [Dr.] Jim Young went off to China to talk about our successes and how we controlled it. [Dr.] Bonnie [Henry] went with him and [Dr.] Tony [Mazzulli] went with him and nobody said, "how do you know it is over?" including myself. None of us said "well, just because," and it is such a simple question to ask and we blew it. It is just amazing everybody blew it.

The desire to see the end of SARS was natural. People had worked beyond the normal limits of endurance, it was a frightening experience, and everyone wanted to see the end of the spread of SARS. The fact that everyone on the front lines and throughout the system wanted it to be over may in hindsight suggest over-optimism, but it provides no evidence of political or economic pressure.

Inherent Problems of Proof and Disproof

How can one ever be satisfied beyond a reasonable doubt or even on a balance of probabilities that a thing like political pressure does not exist? Judicial experience shows that it is inherently difficult to prove a negative. This is particularly so with a thing as subtle and elusive as political or economic pressure. In the first place, those who improperly exert such pressure or improperly succumb to it are unlikely to admit it unless confronted with a document. In the second place, such matters are not typically committed to documents. In the third place, such pressure can be so subtle as to defy proof. In the fourth place, there may in fact be no such pressure but underlings may create self-imposed pressure to do what they think will please their masters.[1015]

How can an investigator be satisfied there was no improper pressure? Improper pressure is a hard thing to find and a harder thing to prove or disprove. Even if one interviewed every single Ontario politician and Ministry and Public Health and hospital employee, and everyone denied such pressure, that would not, because of the four problems of proof mentioned above, prove there was no improper pressure.

The only thing an investigator can do is to interview the key figures and a large number of those who played a part in Ontario's response to SARS and those affected by SARS, from the highest officials to the front-line workers, and test their evidence against the entire body of interviews with witnesses and confidential informants and documentary evidence and the logic and experience of human behaviour.

The Commission's Investigation

The work of the SARS Commission was highly publicized in the media and by newspaper advertisements and the Commission website and the public hearings. Confidentiality was promised to anyone who wished to come forward. The Commission conducted hundreds of confidential interviews and examined thousands of documents without finding any evidence of such improper pressure.

Analysis

No one at the public hearings, not even those who were highly critical of government and public health and hospitals, was able to recall any evidence of such pressure.

All of the key figures, including the Premier, the Minister of Health, senior officials in the Ministry and in Public Health and hospitals, and doctors, denied and refuted the suspicions that anyone exerted or succumbed to improper pressure to minimize or hide SARS or to declare prematurely that it was over.

This evidence is uncontradicted by any evidence turned up in the Commission's investigation described above. The evidence supports the assertion of the key figures that there was no such pressure.

These uncontradicted denials and refutations are plausible for the following reasons:

- It would be political suicide to try to hide SARS or suppress evidence of its return because it would be so difficult to hide such an explosive fact and the risk of exposure would be too high. As Health Minister

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[1015] An example of the latter two problems is furnished by the remark by King Henry II: "Will no one rid me of this turbulent priest" The king's remark resulted in the murder, by four of his knightly hangers-on, of the Archbishop of Canterbury. Did the King order the murder? Did he hope the knights would fulfill his wish? Did the knights follow orders? Did the knights merely want to please their master by bringing about what they thought he wanted?

Clement said in response to questions by Mr. Hunt, Commission counsel:

> I knew that if I ever declared it over and it wasn't over, I would be strung up from the nearest lamp post, I knew that as a politician, as well as a human being, I knew that.
>
> …
>
> There is an ingrained check and balance on that, which is if you are seen as exploiting this issue for political purposes, you are absolutely crucified and rightly so. That is an ingrained check and balance…

- It would be political suicide to try to hide SARS or suppress evidence of its return because the conspiracy of silence required to achieve it would require the participation of so many people at so many levels that leaks and exposure and disgrace would be inevitable.

- To exert improper pressure effectively in a complex health system full of feisty independent professionals and potential whistleblowers would require not only the knowledge of a large number of people but also their continuing silence to this day. The fact that no one has come forward with any evidence or even any specific allegation of improper pressure makes it highly implausible that such evidence exists.

- The Commission asked hundreds of people in confidential interviews, many of whom distrust officialdom and those in authority, if they knew any evidence of such improper pressure. No one recalled any such evidence.

- The Commission from confidential informants and by way of subpoena obtained and examined thousands of contemporary emails and documents from government and hospitals and found no evidence of such pressure.

Finding

On the basis of this evidence and this reasoning, the Commission finds that there was no political or economic pressure brought to bear on the health system or Public

Health or hospitals in order to minimize or hide SARS or to say that a SARS case was not SARS or to declare prematurely that SARS was over.

13 Essential Questions

Introduction

SARS raised serious questions. Thirteen of the most important ones are addressed here. Some answers are terribly clear. Were health workers adequately protected? Clearly not. Other answers are less obvious. Could SARS II have been prevented? If so, how? This section will summarize these answers as they emerge from the Commission's evidence and findings.

It is too easy after a public health crisis to assign individual blame. This is not to say in hindsight that mistakes were not made or that systems should not be blamed. But honest mistakes are inevitable in any human system. There is always more than enough blame to go around if good faith mistakes made in the fog of crisis are counted in hindsight as blameworthy.

The approach of this Commission as set out in its mandate and as reflected in its approach is not to apportion blame but to find out what happened, to figure out how to fix the problems revealed by SARS, to learn from these tragedies and to give a legacy of betterment to those who died, those who fell ill, those who suffered so much and those who fought it with such courage.

1. Why Does SARS Matter Today?

It is fair to ask, in respect of this final report, after so many reports and investigations, the Naylor Report and the Walker Report and the Commission's 2004 and 2005 interim reports, so what? What is gained now by telling in detail the story of SARS?

Why does SARS matter today, more than three years after the event, after the government and the media have moved on to other crises, after those who suffered from SARS have moved on as best as they can?

After every disaster like SARS the years recede and memories fade. There is always pain that has been forgotten, and things we choose not to recall. If we forget the suffering and courage seen in the SARS crisis we diminish the sacrifices of Tecla Lin, Nelia Laroza, Dr. Nestor Yanga and all those who died and those who suffered. Their suffering and courage should not be in vain.

We must remember SARS because it holds lessons we must learn to protect ourselves against future outbreaks, including a global influenza pandemic predicted by so many scientists. If we do not learn from SARS and we do not make the government fix the problems that remain, we will pay a terrible price in the next pandemic.

2. How Bad Was SARS?

The numbers, that 375 people contracted SARS and 44 died, do not tell the complete story of how bad SARS was. They do not reflect the unspeakable losses of families affected by SARS. They do not reflect the systemic failures that permitted these deaths and illnesses.

SARS had Ontario's health system on the edge of a complete breakdown. The wonder is not that the health system worked so badly during SARS, but that it worked at all. SARS also badly hurt Ontario's international reputation, setting up an unfortunate link in the minds of many in other countries between Toronto and a mysterious deadly disease.

Worst of all, SARS demonstrated how many earlier wake-up calls had been ignored, and how few of their warnings had been heeded. Many of the fault lines that appeared during SARS were identified by earlier investigations and commissions, notably the Krever Inquiry into tainted blood and the O'Connor Inquiry into tainted water.

SARS may be the last wake-up call we get before the next major outbreak of infection, whether it turns out to be an influenza pandemic or some other health crisis. That is why we cannot forget how bad SARS was, and how much terrible suffering and loss we must avoid the next time around. The tragedy of SARS, these stories of unbearable loss and systemic failure, give the public every reason to keep the government's feet to the fire in order to complete the initiatives already undertaken to make us safer from infectious disease.

3. What Went Right?

Despite its deep flaws, the system was supported by people of extraordinary commitment. What pulled us through was the hard work and the courage of those who stepped up and fought SARS. What went right in a system where so much went wrong is their dedication in the midst of chaos and enormous workload pressures. It was a tireless fight in the fog of battle against a deadly and mysterious disease. We should be humbled by their efforts.

SARS produced so many heroes that it is impossible to identify them all and no attempt has been made to do so. Some happen to be mentioned in this report when their names are essential to the narrative.

One hero was the public, which rose magnificently to meet the challenge. Any fight against infectious disease depends above all on public cooperation. SARS could not have been contained in Toronto without the tremendous public cooperation and without the individual sacrifice of those who were quarantined. It is essential to ensure that the spirit of cooperation shown during SARS is not taken for granted. It must be nurtured and promoted.

4. What Went Wrong?

SARS took hold because of a confluence of systemic weaknesses in worker safety, infection control and public health. The Commission's first interim report identified 21 deep systemic flaws in public health infrastructure. The second interim report identified serious shortcomings in health protection and emergency management laws. This final report identifies further areas of unresolved problems, particularly in the domain of health worker safety. Because of these systemic weaknesses, SARS was a disaster waiting to happen.

The public health system was broken, neglected, inadequate and dysfunctional. It was unprepared, fragmented, uncoordinated. It lacked adequate resources, was professionally impoverished and was generally incapable of fulfilling its mandate.

Ontario was not prepared for a public health crisis like SARS. It didn't even have a pandemic plan.

There was a grave lack of worker safety expertise, resources and awareness in the health system, a lack whose impact was compounded by a similar lack of infection control expertise and resources. Not only that, but infection control and worker safety operated as two solitudes, and public health and hospitals operated as separate silos. And the Ministry of Labour was sidelined.

Also missing were two key components of a safe workplace: Neither internal responsibility systems nor joint health and safety committees were, in general, fulfilling their intended roles and responsibilities.

The trust of health workers in the ability of government, safety laws, and their employers to safeguard them and their colleagues was broken. Health workers learned that those in charge were poorly informed and inadequately advised to make pronouncements on worker safety and personal protective equipment. A prime example was the lack of awareness throughout the health and hospital system of the legal requirement for respirator fit testing.

5. Were Precautions Relaxed Too Soon?

In May 2003, the government implemented a series of measures that led to the relaxation of precautions on May 13 and to the lifting of the provincial emergency four days later. But SARS had not gone away. How could victory over SARS have been declared when it was spreading undetected at North York General Hospital? Were precautions relaxed too soon?

Knowing when to announce the "all clear" is very difficult. There were similar instances during the Spanish flu pandemic of 1918–1919, when victory was declared too early. Decision makers are in a tough spot during a public health emergency. React too early in a preventive mode and they may be accused of having generated another "swine flu" problem. Lift precautions too early and they may be accused of recklessness and bowing to political pressure.

There is no easy answer to the question of whether precautions were lifted too soon. In hindsight it turned out to be a mistake because as soon as precautions were relaxed the SARS cases simmering undetected at North York General flared up into the second outbreak. But the decision was made at the time in good faith on the best medical advice available and after two incubation periods with no new detected cases did it appear appropriate to relax the precautions and institute the "new normal" with precaution levels higher than they were before SARS.

As noted in the report, one of the underlying reasons for the second outbreak was the lack of any system to ensure surveillance of the kind that would have detected the North York General cases before they spread. Although the relaxation of precautions triggered the second outbreak, its more underlying cause has more to do with the lack of systems to ensure adequate surveillance.

6. Who Is There to Blame?

No one. The evidence throws up no scapegoats. This will disappoint those who seek someone to blame.

It is too easy to seek out scapegoats. The blame game begins after every public tragedy. While those who look for blame will always find it, honest mistakes are inevitable in any human system. There is always more than enough blame to go around if good faith mistakes made in the heat of battle are counted in hindsight as blameworthy.

More important than blame is to find out what happened, to figure out how to fix the problems, to learn something from these tragedies, to give a legacy of betterment to those who died and those who fell ill and those who suffered so much.

This was a system failure. We were all part of it because we get the public health system and the hospital system we deserve. We get the emergency management system we deserve and we get the pandemic preparedness we deserve. The lack of preparation against infectious disease, the decline of public health, the failure of systems that should protect nurses and paramedics and doctors and all health workers from infection at work, all these declines and failures went on through three successive governments of different political stripes. We all failed ourselves, and we should all be ashamed because we did not insist that these governments protect us better.

It is also hard to find blame because blame requires accountability. Accountability was so blurred during SARS that it is difficult even now to figure out exactly who was in charge of what. Accountability means that when something goes wrong you know who to look for and you know where to find them. That kind of accountability was missing during SARS and remains blurred even today. What we need is a system with clear lines of authority and accountability to prepare us better for the next infectious outbreak.

7. Was Information Withheld?

There is no evidence that information was deliberately withheld. But there is much evidence of serious communication failure.

Bad communication is a steel thread throughout the story of SARS. Poor communication exacerbated a confusing and terrible time. This happened again and again. In February and early March 2003, health workers in Ontario, unlike their colleagues in B.C., were not alerted to the emergence of a mysterious new disease in China and Hong Kong. Until mid-May 2003, directives failed to remind employers of their worker safety legal obligations. And over and over when new hospital outbreaks were detected, there were inordinate delays before all workers who might have been exposed were contacted.

Bad communication between governments and agencies and hospitals is evidenced in many cases throughout this report. Although a real effort was made by government and public health to give the public timely and accurate information, performance was mixed. In some instances public communication was excellent, as in the work of Dr. Sheela Basrur, the Chief Medical Officer of Health for Toronto. In some instances, like the disastrous May 23 press conference, public communication was like a train wreck.

8. Did Politics Intrude?

The Commission finds on the basis of the evidence and analysis set out in this chapter that there was no political or economic pressure brought to bear on the health system or public health or hospitals in order to minimize or hide SARS or to say that a SARS case was not SARS or to declare prematurely that SARS was over.

9. Was SARS I Preventable?

There is an element of speculation in any attempt to say whether a disaster could have been prevented by this measure or that measure. History is full of what-ifs. Like every other historical what-if, there is an element of speculation in any attempt to say whether the SARS disaster could have been prevented, by earlier isolation and investigation, by a differently configured emergency room, by different infection control procedures, worker safety precautions or training or alertness.

The short answer is no, SARS I was not preventable. No country escaped SARS entirely. Vancouver certainly did better than Toronto. Although the presentation of the index cases was much different in each case, there are enough similarities to warrant comparison in terms of preparedness and worker safety systems. There was undoubtedly an element of good fortune that saved Vancouver from the devastation that SARS wrought on Ontario. But it must also be said that Vancouver made its own luck with better preparedness and systemic strengths.

It cannot be proven that SARS I could have been prevented if Ontario's systemic weaknesses in preparedness, surveillance, worker safety, infection control and public health had been adequately addressed before SARS. It is likely that SARS I could have been contained more quickly and with less damage had the right systems been in place in Ontario.

In B.C., even if the province was luckier than Ontario in the presentation of its index case, SARS was, nonetheless, more effectively contained in a jurisdiction with better preparation and more robust and more collaborative worker safety, infection control and public health systems.

British Columbia provides a useful example of how well things can work and how well health workers can be protected when there is a strong safety culture. It provides an example of how things can and should work in Ontario.

10. Was SARS II Preventable?

We will never know if SARS II could have been prevented.

What can be said, for the reasons set out below, is that the opportunity was greater to prevent SARS II than to prevent SARS I, and that SARS II could have been caught earlier and its impact lessened had the right systems been in place.

First, as a mostly nosocomial outbreak, SARS spread primarily within the contained space of health workplaces. Unlike a flu pandemic, it did not spread uncontrollably in the community. Second, it spread precisely in the kind of workplaces that should be optimally prepared to protect patients, visitors and workers from infectious diseases. Third, it occurred more than two months after Mr. T presented at Scarborough Grace Hospital. It is one thing to be caught off guard, as Ontario was, at the start of SARS. It is another to have failed to learn enough over a two-month period to prevent a major recurrence.

The problem was that these factors, which should have made it easier to prevent and control SARS II, were undermined by the many systemic flaws revealed by SARS, including insufficient surveillance, inadequate infection control expertise and resources, a lack of worker safety resources and expertise, blurred accountability, and inadequate communication systems between hospitals and public health.

11. Were Health Workers Adequately Protected?

The answer is no. It is tragically clear that health workers were not adequately protected. This is demonstrated by the heavy burden of disease on hospital workers, paramedics and others who worked in Ontario's health system during SARS. Two nurses and a doctor died from SARS. Other health workers fell ill, including paramedics, medical technicians and cleaners, and many of them unknowingly infected their families. Almost half of those who contracted SARS were health workers who got it on the job. It would have been one thing if all had been infected at the start of the outbreak when little was known about the disease. The full extent of worker safety failings during SARS is revealed by the fact that workers continued to get sick in April and up to the end of May, long after the Scarborough Grace outbreak.

Table 1 – Probable and Suspect SARS Cases Contracted in Health Care Settings[1016]

Category	Phase 1	Phase 2	Total Number of Suspect and Probable Cases	Percentage of Total Number of Cases (375)
Health Workers	118	51	169	45%
Patients	23	35	58	15%
Visitors	20	23	43	11%
Total	161	109	270	72%

Many factors contributed to this. There was a lack of worker safety resources and expertise in the health system heading into SARS. The health system generally did not understand its obligations under worker safety laws and regulations. There was a lack of understanding of occupational safety as a discipline separate from infection control. Infection control and occupational safety operated as two solitudes. The Ministry of Labour was largely sidelined during SARS; its ability to play a greater enforcement and regulatory role as required by law to protect workers had been seriously undermined by funding and resource cuts in the 1990s.

[1016] Presentation of Dr. Colin D'Cunha, SARS Commission Public Hearings, Sept. 29, 2003.

12. Are We Safer Now?

The short answer is yes, somewhat safer. The long answer that we are not yet as safe as we should be.

The Commission's first interim report, in April 2004, addressed the deep problems of public health infrastructure in Ontario and what must be done to make us safer. The Commission's second interim report, in April 2005, addressed glaring deficiencies in Ontario's health protection and emergency response laws and what must be done to correct them.

Although the Ontario government and individual hospitals have taken significant steps to improve our level of protection from infectious outbreaks such as SARS, serious problems persist. Much remains to be done. What has been accomplished thus far, though commendable, marks the beginning of the end of the effort to fix the problems revealed by SARS. The end will not be reached until Ontario has a health system with robust and collaborative infection control, worker safety and public health functions.

As the Commission's second interim report said:

> After long periods of neglect, inadequate resources and poor leadership, it will take years of sustained funding and resources to correct the damage.[1017]

13. What Must Be Done?

SARS revealed a broad range of systemic failures: the lack of preparation against infectious disease outbreaks, the decline of public health, the failure of systems that should protect nurses and paramedics and others from infection at work, the inadequacy of infection control programs to protect patients and visitors to health facilities, and the blurred lines of authority and accountability.

[1017] SARS Commission, second interim report, p. 297.

SARS taught us lessons that can help us redeem our failures. These lessons are reflected in the Commission's recommendations for change.

Perhaps the most important lesson of SARS is the importance of the precautionary principle. SARS demonstrated over and over the importance of the principle that we cannot wait for scientific certainty before we take reasonable steps to reduce risk. This principle should be adopted as a guiding principle throughout Ontario's health, public health and worker safety systems.

If we do not learn this and other lessons of SARS, and if we do not make present governments fix the problems that remain, we will leave a bitter legacy for those who died, those who fell ill and those who suffered so much. And we will pay a terrible price in the face of future outbreaks of virulent disease, whether in the form of foreseen outbreaks like flu pandemics or unforeseen ones, as SARS was.

SARS taught us that we must be ready for the unseen. SARS taught us that new microbial threats like SARS have happened and can happen again. And it gave us a first-hand glimpse of the even greater devastation a flu pandemic could create.

There is no longer any excuse for governments and hospitals to be caught off guard, no longer any excuse for health workers not to have available the maximum reasonable level of protection through appropriate equipment and training, and no longer any excuse for patients and visitors not to be protected by effective infection control practices.

As the Commission warned in its first interim report:

> Ontario … slept through many wake-up calls. Again and again the systemic flaws were pointed out, again and again the very problems that emerged during SARS were predicted, again and again the warnings were ignored.
>
> The Ontario government has a clear choice. If it has the necessary political will, it can make the financial investment and the long-term commitment to reform that is required to bring our public health protection against infectious disease up to a reasonable standard. If it lacks the necessary political will, it can tinker with the system, make a token

investment, and then wait for the death, sickness, suffering and economic disaster that will come with the next outbreak of disease.

The strength of the government's political will can be measured in the months ahead by its actions and its long-term commitments.[1018]

[1018] SARS Commission, first interim report, p. 210.

CHAPTER NINE: Recommendations

Introduction

The first interim report, *SARS and Public Health in Ontario*, focused on public health renewal. The Commission said:

> Because government decisions about fundamental changes in the public health system are clearly imminent, this interim report on the public health lessons of SARS is being issued at this time instead of awaiting the final report ... The fact that the Commission must address public health renewal on an interim basis is not to say it is more important than any other urgent issue such as the safety and protection of health care workers. It is simply a case of timing.[1019]

The Commission set out 21 principles for reforming the shortcomings of the public health system demonstrated by SARS. It also made recommendations to address urgent problems that had to be corrected to prevent another tragedy like SARS, including a lack of provincial public health leadership, insufficient public health capacity and resources, inadequate provincial laboratory capacity, a lack of central public health coordination and expertise, an absence of public health emergency preparedness, and a lack of public health links with hospitals, health workers and others.

The second interim report, *SARS and Public Health Legislation*, focused on public health legislation. The Commission said:

> This second interim report deals with legislation to strengthen the *Health Protection and Promotion Act* and to enact emergency powers for public health disasters like SARS or flu pandemics. It is produced now to respond to current government plans for further amendments to *Health*

[1019] SARS Commission, first interim report, p. 1.

> *Protection and Promotion Act* and radical changes to the *Emergency Management Act*.[1020]

The Commission made recommendations regarding Chief Medical Officer of Health independence and leadership, local public health governance, public health legal preparedness and emergency legislation, public health resources, and overhauling the *Health Protection and Promotion Act*, including strengthening health protection powers and clarifying infectious disease reporting requirements.

This third and final report makes recommendations arising from the story of how SARS devastated Ontario and was not contained until 375 people contracted the disease and 44 died. Not surprisingly in an outbreak where nurses, doctors and other health workers constituted the largest single group of SARS cases, many of the recommendations address worker safety issues. As the Commission noted in its second interim report:

> Suggestions have been received for legislation to strengthen occupational health and safety protection for health workers. That issue will be dealt with in the final report. Occupational health and safety is a vital aspect of the Commission's work.[1021]

The Commission benefited greatly from written and oral submissions delivered during the course of the public hearings and in response to several calls for submissions from the beginning to the end of the investigation. Many submissions and presentations from the public hearings are on the Commission's website.

The submissions from government, hospitals, unions and many sectors of the health community noted significant improvements since SARS and significant areas where more needs to be done. These submissions constitute just under a banker's box of material. This material, together with all public records of the Commission's work, have been transmitted to the Archives of Ontario[1022] and will be available to the public according to archival policy.

[1020] SARS Commission, second interim report, p. 1.

[1021] SARS Commission, second interim report, p. 1.

[1022] The Commission has transmitted to the Archives of Ontario all non-confidential material. The Commission's report is by its terms of reference subject to Ontario's privacy and freedom of information legislation, in the sense that the report itself is publicly available and must respect the confidentiality of personal health information. Because the Commission is independent from government, its confidential work product is not subject to those statutes. Much of the

Precautionary Principle

In *The Commission of Inquiry on the Blood System in Canada*, Mr. Justice Krever said:

> Where there is reasonable evidence of an impending threat to public health, it is inappropriate to require proof of causation beyond a reasonable doubt before taking steps to avert the threat.[1023]

The importance of the precautionary principle that reasonable efforts to reduce risk need not await scientific proof was demonstrated over and over during SARS. The need to apply it better is noted throughout this report.

One example was the debate during SARS over whether SARS was transmitted by large droplets or through airborne particles. The point is not who was right and who was wrong in this debate. When it comes to worker safety in hospitals, we should not be driven by the scientific dogma of yesterday or even the scientific dogma of today. We should be driven by the precautionary principle that reasonable steps to reduce risk should not await scientific certainty.

A precautionary approach also was in use at Vancouver General Hospital when it received B.C.'s first SARS case on March 7, 2003, the same day Ontario's index case presented at Scarborough Grace Hospital. When dealing with an undiagnosed respiratory illness, health workers at Vancouver General automatically go to the highest level of precautions, and then scale down as the situation is clarified. While the circumstances at Vancouver General and the Grace were different, it is not surprising that SARS was so effectively contained at an institution so steeped in the precautionary principle.

In Ontario there was a systemic failure to recognize the precautionary principle in health worker safety, and in the identification and diagnosis of a respiratory illness that mimicked the symptoms of other, better-known diseases. Amid this systemic absence of the precautionary principle, it is not surprising that in Ontario, unlike in Vancouver, SARS caused such devastation, infecting 375 people, including 169 health workers, and killing 44, including two nurses and a physician.

Commission's work product consists of confidential informant interviews, notes and documents produced or obtained under a promise of confidentiality that attracts in law.

[1023] The Krever Report, p. 295; see also pp. 989-994.

The Commission therefore recommends:

- That the precautionary principle, which states that action to reduce risk need not await scientific certainty, be expressly adopted as a guiding principle throughout Ontario's health, public health and worker safety systems by way of policy statement, by explicit reference in all relevant operational standards and directions, and by way of inclusion, through preamble, statement of principle, or otherwise, in the *Occupational Health and Safety Act*, the *Health Protection and Promotion Act*, and all relevant health statutes and regulations.

- That in any future infectious disease crisis, the precautionary principle guide the development, implementation and monitoring of procedures, guidelines, processes and systems for the early detection and treatment of possible cases.

- That in any future infectious disease crisis, the precautionary principle guide the development, implementation and monitoring of worker safety procedures, guidelines, processes and systems.

Public Health System

SARS showed that Ontario's public health system is broken and needs to be fixed. Since then, while much progress has been made, after long periods of neglect, inadequate resources and poor leadership, much more remains to be done. Every recommendation to the Commission in respect of public health noted the need for more resources.[1024]

[1024] One of the best examples is the July 19, 2006, submission by Dr. David McKeown, the Toronto Medical Officer of Health, who noted in particular these six problems:

1. The role and authority of Public Health with respect to non-reportable diseases must be strengthened.

2. The reporting capability of iPHIS [the integrated Public Health Information System] must be improved. In addition, the Ministry of Health and Long-Term Care (MOHLTC) must move forward more rapidly to enable electronic reporting of cases from laboratories, hospitals and physicians to local Public Health.

3. The MOHLTC and the College of Physicians and Surgeons of Ontario must develop mech-

As the Commission's second interim report said:

> As the province moves into the latter stages of Operation Health Protection, stages when significant funding will be required, the challenge will be to provide the necessary resources to sustain the momentum for change despite the government's other budgetary pressures.
>
> The point has to be made again and again that resources are essential to give effect to public health reform. Without additional resources, new leadership and new powers will do no good. To give the Chief Medical Officer of Health a new mandate without new resources is to make her powerless to effect the promised changes. As one thoughtful observer told the Commission:
>
>> The worst-case scenario is basically to get the obligation to do this and not get the resources to do it. Then the Chief Medical Officer of Health would have a legal duty that [he or she] can't exercise.
>
> To arm the public health system with more powers and duties without the necessary resources is to mislead the public and to leave Ontario vulnerable to outbreaks like SARS.[1025]

SARS also disclosed many problems with the *Health Protection and Promotion Act* that

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anisms to enable all licensed physicians in the province to receive urgent health alerts electronically.

4. The MOHLTC must clarify the role and authority of Public Health with respect to infection control in hospitals and other institutions.

5. Overall public health capacity must be strengthened. This requires an enhanced budget, not just a change in the cost-sharing formula. In addition the human resources issues are serious and growing, in particular with respect to Community Medicine physician specialists who are critical in an infectious disease emergency.

6. The full independence of the Chief Medical Officer of Health role is required. The current position combines this independent role, which may lead to conflict between government interests and health needs of the public.

[1025] SARS Commission, second interim report, p. 303.

were the subject of extensive recommendations in the second interim report.[1019] These included problems arising from the necessary use of a blunt instrument like the Code Orange status, and confusion about infectious disease reporting obligations.

The Commission therefore recommends:

- That the Government complete the process of fixing the public health system, including:
    - — Conducting the major overhaul of the *Health Protection and Promotion Act* recommended in the Commission's second interim report to remove dangerous uncertainties like the confusion about infectious disease reporting obligations that occurred during SARS, and to provide authorities with the ability to provide a more tightly focused response than was possible under the blunt instrument of the Code Orange status;
    - — Completing the review of the Mandatory Health Programs and Services Guidelines, and moving from a system of guidelines to a more accountable one based on performance-linked program standards;
    - — Establishing the Ontario Health Protection and Promotion Agency;
    - — Revitalizing the Central Public Health Laboratory; and
    - — Providing sufficient and sustained funding for public health.

Ontario Agency for Health Protection and Promotion, and the CMOH

Although there is much wisdom in the proposal for an Ontario Agency for Health Protection and Promotion, the recommended structure[1020] fails to take into account the major SARS problem of divided authority and accountability.

[1019] SARS Commission, second interim report, pp. 404-416.

[1020] See Final Report of the Agency Implementation Task Force, *From Vision to Action: A Plan for the Ontario Agency for Health Protection and Promotion*, March 2006; Report of the Agency Implementation Task Force, *Building an Innovative Foundation: A Plan for the Ontario Agency for Health Protection and Promotion*, October 2005.

As the Commission noted in its second interim report:

> … the SARS response was also hamstrung by an unwieldy emergency leadership structure with no one clearly in charge. A *de facto* arrangement whereby the Chief Medical Officer of Health of the day shared authority with the Commissioner of Public Safety and Security resulted in a lack of clarity as to their respective roles which contributed to hindering the SARS response.[1021]

An important lesson from SARS is that the last thing Ontario needs, in planning for the next outbreak and to deal with it when it happens, is another major independent player on the block.

The first report of the Agency Implementation Task Force said:

> A body at arm's-length from the government was recommended in the Walker, Campbell and Naylor reports, was a commitment in *Operation Health Protection* and aligns with the successful experience of the INSPQ [L'Institut national de santé publique du Québec].[1022]

The Commission in fact recommended a much different arrangement in its first interim report, and warned against creating another "silo," another autonomous body, when SARS demonstrated the dangers of such uncoordinated entities:

> First, the structure of the new agency or centre, which will combine advisory and operational functions, must reflect the appropriate balance between independence and accountability whether it is established as a Crown corporation or some other form of agency insulated from direct Ministerial control.
>
> Second, it should be an adjunct to the work of the Chief Medical Officer of Health and the local Medical Officers of Health, not a competing body. SARS showed that there are already enough autonomous players on the block who can get in each other's way if not properly coordinated. There is always a danger in introducing a semi-autonomous body into a

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1021. SARS Commission, second interim report, p. 323.

1022. Report of the Agency Implementation Task Force, *Building an Innovative Foundation: A Plan for the Ontario Agency for Health Protection and Promotion*, October 2005, p. 16.

> system like public health that is accountable to the public through the government. The risk is that such a body can take on a life of its own and an ivory tower agenda of its own that does not necessarily serve the public interest it was designed to support.[1023]

Consequently, the Commission recommended that the Chief Medical Officer of Health have a hands-on role at the agency, including a seat on the board.[1024]

The Agency Implementation Task Force took a completely opposite approach, recommending against giving the Chief Medical Officer of Health a seat as a voting member of the board, and recommending a very autonomous role for the agency.

This proposed arrangement ignores important lessons from SARS.

The Commission, far from recommending a completely arm's-length organization, pointed out the need for the Chief Medical Officer of Health to be in charge with the assistance of the agency, which should, albeit with a measure of policy independence, be operationally accountable to the Chief Medical Officer of Health.

The Commission therefore recommends:

- That the government reconsider in light of the lessons of SARS the Agency Implementation Task Force's recommendation regarding the relationship between the Chief Medical Officer of Health and the agency.

[1023] SARS Commission, first interim report, p. 19.

[1024] The first interim report said:

> To ensure that the new Ontario agency complements the service mandate of the public health system, the relationship must be clear between the new Ontario agency and the Chief Medical Officer of Health. Unless he or she has a clear say in the ongoing work and overall direction of the agency, and the ability to mobilize the resources of the agency to meet a public health problem when required, the agency will not fulfill its role as a source of support to public health operations. The Chief Medical Officer of Health must have more than a token role in the direction of any such agency. If the new agency is to have a Board of Directors, the Chief Medical Officer of Health, if not its Chair, should be at least its Associate Chair. To the extent the agency is operational as opposed to purely advisory, the Chief Medical Officer of Health must, in the face of a public health problem, be able to direct the operational resources of the agency so as best to meet the problem at hand, whether the resources are epidemiological, laboratory, or other.

SARS Commission, first interim report, p. 188.

Emergency Plans for Orderly Hospital Closure

Before SARS no one was prepared for the possibility that a hospital might need to be closed to contain an infectious disease outbreak. Yet this is what happened on three occasions during SARS, at the Scarborough Grace Hospital, York Central Hospital and North York General Hospital. No one in Ontario had had to do this before. SARS demonstrated the immense difficulty of closing a hospital in the middle of an outbreak, when no one had done it before, when no one had planned for this possibility, and when no exercises and education had been conducted to train staff on how to do it. It is to the credit of all those involved in closing Scarborough Grace, York Central and North York General that they accomplished the task despite having never had the experience of and knowledge from doing so before.

The Commission therefore recommends:

- The development of emergency plans for orderly hospital closure to avoid problems of the kind that arose at the Grace, York Central and North York General, to cover all eventualities and in particular:

  — Effective means for immediately notifying staff at the institution of any potential risk.

  — Effective means for immediately notifying staff not on duty at the institution of any potential risk.

  — Systems for rapidly securing the names and tracing information of everyone at the hospital at the time including visitors to patients.

  — Amendment of the *Health Protection and Promotion Act* to ensure duty to identify for purpose of public health tracing.[1025]

[1025] The second interim report said:

> A submission to the Commission from a group of experts, who were all closely involved in the SARS response, recommended that the reporting sections of the *Health Protection and Promotion Act* be amended to support the work of health units in tracing the contacts of patients with infectious diseases:
>
> > The current HPPA does not give specific reference to contacts of infectious cases. Release of information on the cases as well as contacts is essential for infectious disease control. This was a major obstacle during the management of the SARS outbreak. We believe that

— Prearranged, rehearsed protocols for police assistance.

— Immediate medical backup for those dependent on the hospital, such as obstetrics, dialysis and oncology.

— Effective means for immediately informing the public, families of patients and the wider hospital community.

- That hospital emergency closing plans be rehearsed and reviewed on a periodic basis to reflect lessons learned in training exercises and emergency management best practices.

Effective Distribution of Outbreak Alerts

When Mr. T presented to the Grace on March 7, 2003, health workers did not know to be on the lookout for unusual respiratory illnesses. Unlike their counterparts in B.C., they had not been alerted to the emergence of a mysterious new disease in China and Hong Kong. Three years after SARS, public health officials told the Commission there is still no means to communicate quickly and effectively with Ontario's physicians. SARS demonstrated that alerts and other communications need to quickly reach all workplace parties, including employers, health workers, unions and Joint Health and Safety Committees.

The Commission therefore recommends:

- That the Ministry of Health develop and implement an effective

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the requirement to report contacts referred to specifically in the legislation will allow practitioners to provide this information to their medical officer of health.

The amendments to Regulation 569, effected in Regulation 01/05, address this issue.

Contacts initially identified or later traced are included in most of the lists specifying additional information that must be reported to the medical officer of health. In particular, it is included in the case of SARS, TB, influenza and febrile respiratory illness. This means that those who have reporting obligations under the Act are now required to provide contact information.

Source: SARS Commission, second interim report, p. 199.

means to alert all workplace parties, including health workers, employers, unions and Joint Health and Safety Committees, in a timely manner about infectious disease threats.

- That in preparation for the possibility of a public health crisis like SARS or a pandemic, health institutions develop and implement effective means to communicate to their workers information regarding the outbreak, the health risk, the containment strategy, and measures to protect workers, patients and visitors.

Directives

Directives on N95 respirators and other worker safety issues were prepared without appropriate oversight by the Ministry of Labour, adequate input from worker safety experts, and sufficient participation by workplace parties including unions, employers and Joint Health and Safety Committees. The inadequacies of directives do not reflect on those who prepared them, and who deserve praise for their remarkable effort under difficult circumstances with insufficient resources, infrastructure or planning. Regardless of the reasons for the directives' failings, the reality is that for most of the outbreak they failed to provide the detailed advice that health workers, their supervisors and their employers needed. Workplace parties also reported their continuing difficulties in providing feedback to the Provincial Operations Centre on issues that arose when implementing directives.

The Commission therefore recommends:

- That in any future infectious disease crisis, the preparation of directives involving worker safety be supervised, reviewed and approved by the Ministry of Labour in a process that is transparent and easily understood by all workplace parties.

- That in any future infectious disease crisis, directives involving worker safety be jointly prepared by infection control and worker safety experts to reflect their overlapping responsibilities and thereby ensure that patients, workers and visitors are kept safe.

- That in any future infectious disease crisis, directives involving worker safety be prepared with input from the workplace parties who have to implement them, including employers, health worker representatives and Joint Health and Safety Committees.

- That in any future infectious disease crisis, directives and other communications involving worker safety reference the specific applicable sections of the *Occupational Health and Safety Act*, and its regulations, so that employers and workers are fully informed of worker safety legal requirements.

- That the Ministry of Labour and the Ministry of Health cooperate in developing and implementing an effective communication system for receiving timely feedback from workplace parties, including employers, unions and Joint Health and Safety Committees, regarding any problems encountered when implementing worker safety directives, policies, procedures and systems.

- That when issuing any communication affecting worker safety, the Ministry of Health consult with the Ministry of Labour, and ensure that there are clear, specific references to relevant worker safety laws, regulations, guidelines,and best practices, and that employers are fully informed of their legal obligations to protect workers.

Effective Crisis Communication

There were many systemic problems with crisis communications during SARS. Workplace parties, including unions and the Ministry of Labour, told the Commission of their difficulties in receiving directives in a timely manner and in gaining access to Ministry of Health websites. Employers and workers' representatives often had great difficulty in receiving timely responses to questions to the Provincial Operations Centre, Ministry of Health and the Ministry of Labour, on important issues, including work refusals, safety of pregnant workers, and safety of immunocompromised workers. Workers' representatives also said they were not aware of such internal Ministry of Labour documents as the 1984 agreement with the Ministry of Health and the protocol dated April 2, 2003. In some cases, media reports were more informative on SARS than communications by health institutions to their workers.

The Commission therefore recommends:

- That the Ministry of Labour and the Ministry of Health cooperate in developing and implementing an effective communication system to ensure that in the event of an infectious disease outbreak all workplace parties, including front-line health workers, employers, unions and Joint Health and Safety Committees, receive relevant communications, including directives, in a timely manner.

- That in the event of any future infectious disease crisis, the Ministry of Labour provide in a timely manner clear direction and information regarding guidelines for work refusals, pregnant workers and immunocompromised workers.

- That in the event of an infectious disease outbreak, any protocol regarding the Ministry of Labour's response, such as the Ministry's April 2, 2003, protocol, be communicated in a timely manner to employers, unions, Joint Health and Safety Committees and other workplace parties.

Risk Communication

The story of the psychiatric patients and the clusters of family illness in May at North York General demonstrates the importance of clear communication and a clear understanding of the respective roles and responsibilities in an outbreak investigation. Front-line nurses and physicians believed these patients had SARS. Public Health believed these patients, while not classified as having SARS, were being treated as persons under investigation and were being investigated and monitored. The hospital, in good faith, sincerely believed that SARS had been ruled out. In good faith, it also repeated this message to staff and tried to convince staff they were safe. This led to an important disconnect at North York General between what front-line nurses and physicians saw and what the hospital told its employees. The Commission accepts that everyone involved was doing what they thought was right. The problem was that staff in good faith were given assurances with a confidence that was not warranted in the circumstances.

The Commission therefore recommends:

- That the Ministry of Health ensure that the respective roles and responsibilities of public health and hospitals during an infectious disease outbreak are clarified and clearly understood by all parties.

- That public health and hospitals jointly develop processes to ensure that public health advice to hospitals regarding patient diagnosis in a disease outbreak, especially with an infectious disease like SARS that is difficult to identify, clearly reflect all the attendant health risks.

- That risk communication to staff reflect a precautionary approach, that it is better to err on the side of caution, especially when dealing with a little-understood new disease like SARS.

Listening to Front-Line Health Workers

During SARS, front-line doctors, nurses and other health workers had the greatest clinical experience in diagnosing and treating SARS patients. Yet there was no process in place to ensure that their voices and experience were heard.

At North York General, for example, before the events of May 23, 2003, some nurses, doctors and other health workers worried that, despite what they were being told, SARS had not gone away. The hospital felt, based on consultations with outside experts, including Public Health, that the psychiatry patients and the family cluster of illness in May were not SARS. Hospital officials believed in good faith that staff concerns were unfounded and that they needed to convince staff that it was safe. What angered health workers was that their concerns, which turned out to be well founded, were dismissed, and the well-intentioned messages of the hospital were disconnected from front-line staff concerns.

The Commission therefore recommends:

- That effective processes and systems be established to provide a path for communication and consultation with front-line staff.

- That the health concerns of health workers be taken seriously, and that in the spirit of the precautionary principle health workers be made to feel safe, even if this means continuing with levels of heightened precautions that experts believe are no longer necessary.

Listening to Unions

Just as hospitals should listen more carefully to the concerns of nurses and other front-line health workers, the Ministry of Health would be well advised to listen more carefully to the reasonable concerns of health worker unions which have enormous front-line experience in the actual problems of worker safety on the ground. Their expertise is reflected in the thoughtful and detailed presentations by unions that represent Ontario's health workers, and in particular the joint work of the Ontario Nurses' Association and the Ontario Public Service Employees Union. The problems of worker safety have been explicitly recognized by Minister of Health George Smitherman speaking to an audience of nurses in May 2005:

> One of the things I was struck by … [was] the number of nurses that work in environments, hospital environments perhaps more particularly, that actually are unsafe … We have a lot of work to do on that.

It is important for Ministry officials to take this ministerial direction seriously. It is important for Ministry officials to avoid any impression that the Ministry has adopted an adversarial or dismissive attitude towards those who voice the legitimate concerns of those at risk on the front lines.[1026]

Surveillance

One of the most important systemic failures of SARS was the failure to quickly identify clusters of illness among staff and to convey that information to infection control practitioners at affected hospitals and to those leading the fight against SARS. These systemic failures prevented the timely identification of SARS cases at the Grace and at North York General, the sites of the two largest nosocomial outbreaks.

Before May 23, 2003, when it appeared that SARS had been contained, there was no system-wide surveillance in place to ensure that undetected cases were caught. Responsibility for surveillance for undetected cases of SARS was left to individual institutions and to front-line practitioners. Any system that might have identified clusters of illness or death could have been helpful. However, surveillance standards at individual hospitals in Ontario were insufficient and not mandated. Witnesses told the Commission that such surveillance is possible only with a sufficiently resourced infection control function.

[1026] One example of this impression arose after a Ministry of Health official, responding to union concerns that safety issues had been ignored in pandemic planning, did not address the issue on the merits but dismissed the well-expressed union concerns by saying, "I am not sure we will ever meet the expectations of organized labour regarding health and safety…" This comment led the union to believe "that key bureaucrats in MOHLTC view occupational health and safety as a partisan issue, with occupational health and safety proponents as their adversaries."

The Commission therefore recommends:

- That appropriate surveillance standards be established, mandated and funded in Ontario hospitals.

- That special care be paid to identifying clusters of illness among staff and to initiating immediate investigation.

- That where suspicious clusters of illness are identified, this be communicated to health workers, especially to those who might have been in contact with sick staff, or have worked in the same areas of the hospital.

- When an outbreak appears to be waning of a difficult-to-diagnose infectious disease like SARS, system-wide surveillance be implemented to ensure that undetected cases are identified.

- Infection control functions in Ontario hospitals and in public health be sufficiently resourced so that they could contribute to, and participate in, system-wide surveillance when an outbreak appears to be waning of a difficult-to-diagnose infectious disease like SARS.

Infection Control

Many witnesses have told the Commission that, since SARS, infection control standards and practices have improved at hospitals affected by SARS. It will be important to ensure that improvements occur across the health system. Witnesses voiced a concern that as memories of the SARS outbreak fade, so will attention to infection control. Part of that concern is over the lack of consistent system-wide policies on visitor access at hospitals. They also told the Commission that many Ontario hospitals are in older buildings whose structure does not lend itself to modern infection control practices.

The Commission therefore recommends:

- That the Ministry of Health ensure that all Ontario hospitals have infection control personnel, resources and program components, including surveillance, control and education, consistent with Canadian recommendations and best practices.[1027]

- That consistent and clear visitor policies be developed across the health system to ensure that visitor access, while important in caring for the ill, does not overcome infection control standards.

- That the Ministry of Health and every health institution develop consistent, safe and humane policies to lessen the impact of infectious outbreaks on the vital priority for the sick to receive visitors, unless medically dangerous.

- That visitors be educated to their important role in keeping hospitals safe, and to the need to respect limits on the number of visitors, particularly where the illness is not serious or life-threatening.

- That the Ministry of Health help hospitals to incorporate leading practices in infection control standards into facility design and renovation.

Safety Culture in Health Workplaces

The heavy burden of disease that fell on nurses, doctors and other health workers demonstrated the lack of a safety culture[1028] in the Ontario health system. A single event like the spread of SARS at the Grace was warning enough that a safety culture was lacking. The fact that health workers continued to get sick in April and May after the events at the Grace demonstrated the extent to which a safety culture was lacking. Nothing better demonstrates the absence of a safety culture than the inability to fix worker safety problems in a timely manner once they have been identified by a tragedy like the Grace.

[1027] "It's critical that all hospitals have specific human resources, in the form of ICPs (Infection Control Professionals) and support staff, for an effective infection prevention program," says Dr. [Richard] Zoutman. Such programmes must include surveillance (counting infections), control (interventions to prevent them from occurring), and education components.

> Source: Queen's News Centre, "Canadian hospitals below standards for preventing infection," Tuesday, August 05, 2003, http://qnc.queensu.ca/story_loader.php?id=3f2fb55a816fc.

[1028] A definition of safety culture suggested by the Health and Safety Commission in the U.K. is as follows:

> The safety culture of an organisation is the product of the individual and group values, attitudes, competencies and patterns of behaviour that determine the commitment to, and the style and proficiency of, an organisation's health and safety programmes. Organisations with a positive safety culture are characterised by communications founded on mutual trust, by shared perceptions of the importance of safety, and by confidence in the efficacy of preventative measures.

The Vancouver experience demonstrated the value of a safety culture in health workplaces. Expressions of this safety culture included the close cooperation and mutual respect between infection control and worker safety, the emphasis on listening to health workers, and the deployment of joint teams of infection control and worker safety experts to Royal Columbian Hospital after a nurse contracted SARS.

In Ontario, infection control and worker safety disciplines generally operated as separate silos during SARS. Until this divide is bridged and infection control and worker safety disciplines begin to actively and effectively cooperate, it will be difficult to establish a strong safety culture in Ontario.

As a landmark study on worker safety in health care said:

> … if the safety climate within healthcare was better and workers had more confidence in their employers' commitment to worker health and safety, employees would have more confidence in the messages and direc-

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A positive safety culture implies that the whole is more than the sum of the parts. The different aspects interact together to give added effect in a collective commitment. In a negative safety culture the opposite is the case, with the commitment of some individuals strangled by the cynicism of others. From various studies it is clear that certain factors appear to characterise organisations with a positive safety culture.

These factors include:

- The importance of leadership and the commitment of the chief executive
- The executive safety role of line management
- The involvement of all employees
- Effective communications and commonly understood and agreed goals
- Good organisational learning and responsiveness to change
- Manifest attention to workplace safety and health
- A questioning attitude and a rigorous and prudent approach by all individuals

Source: The Institution of Engineering and Technology, "IEE – Health and Safety Briefing 07 – Safety Culture," http://www.iee.org/Policy/Areas/Health/hsb07.cfm.

> tives they received during a crisis situation such as SARS. The relatively low profile of occupational health and safety within healthcare is perhaps best reflected in the observation that very few focus groups, aside from those containing health and safety professionals, seemed to be aware of occupational health and safety professionals at all. Tasks such as fit-testing of respirators often fell to infection control practitioners, not to occupational health and safety professionals (although this appears to vary from facility to facility) as it would have in other industries.[1029]

The study identified the following organizational factors that promote a safety culture:

- There is general agreement that the safety-related attitudes and actions of management play an important role in creating a good or bad safety climate.

- Studies of safety program effectiveness in non-healthcare settings have repeatedly shown that a positive or supportive safety climate is an important contributing factor to good safety performance. Specifically, it is known that as safe behaviours are adopted throughout an organization, increasing pressure is put on non-compliers to "come in line."

- It has been shown that the safety climate has an important influence on the transfer of training knowledge.[1030]

While important research has been conducted on infection control standards,[1031] worker safety experts have noted that similar research has not been undertaken in occupational health and safety.[1032]

[1029] Dr. Annalee Yassi and Dr. Elizabeth Bryce, "Protecting the faces of healthcare workers: knowledge gaps and research priorities for effective protection against occupationally-acquired respiratory infectious diseases" (Occupational Health and Safety Agency for Healthcare in B.C., April 30, 2004), p. 67.

[1030] Dr. Annalee Yassi and Dr. Elizabeth Bryce, "Protecting the faces of healthcare workers: knowledge gaps and research priorities for effective protection against occupationally-acquired respiratory infectious diseases" (Occupational Health and Safety Agency for Healthcare in B.C., April 30, 2004), pp. 32-3.

[1031] See Zoutman et al., "The state of infection surveillance and control."

The Commission therefore recommends:

- That the Ministry of Labour use its enforcement and standard-setting activities, and the Ministry of Health its funding and oversight activities, to promote organizational factors that give rise to a safety culture in health workplaces.

- That the Ministry of Labour and the Ministry of Health jointly promote a safety culture in health workplaces that emphasizes close cooperation and collaboration between infection control and worker safety experts, and reflects the principles and practices of their respective disciplines.

- That in preparation for the possibility of a future infectious disease outbreak, the Ministry of Labour and the Ministry of Health jointly establish teams of trained and equipped infection control experts, occupational physicians, occupational hygienists and Labour inspectors who could be rapidly deployed to sites of workplace outbreaks.

- That occupational health and safety standards, including optimal staffing levels for worker safety practitioners, be established, similar to the SENIC standards for infection control.[1033]

- That once occupational health and safety standards are established,

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[1032] "Certainly more research on what levels or standards are needed to promote effectiveness in occupational health, similar to the SENIC studies for infection control, is needed." Source: Dr. Annalee Yassi and Dr. Elizabeth Bryce, "Protecting the faces of healthcare workers: knowledge gaps and research priorities for effective protection against occupationally-acquired respiratory infectious diseases" (Occupational Health and Safety Agency for Healthcare in B.C., April 30, 2004), p. 67.

[1033] The most important determinants of successful general nosocomial infection control programs in hospitals have been understood since the mid-1980s when the Study on the Efficacy of Nosocomial Infection Control (SENIC) was published. The following organizational factors were found to be important in determining effective infection control and lower rates of nosocomial-transmitted disease: having one infection control practitioner per 250 acute care beds, having at least one full-time physician interested in infection control, having an intensive surveillance program for nosocomial diseases and having intensive control policies and procedures. However, in a recent survey of 172 hospitals in Canada, only about 60 per cent of hospitals had evidence of compliance for each of the SENIC factors. The number of institutions who had all four factors was likely much less.

the Ministry of Health provide consistent and sustained funding and strategic planning to ensure that these requirements are achieved, and the Ministry of Labour ensure they are maintained through its enforcement and monitoring functions.

- That the best practices of worker safety disciplines and infection control be reflected in hospital accreditation standards.

- That additional resources be dedicated by the Ministry of Health for the training and certification of worker safety experts, including occupational physicians and occupational hygienists.

- That worker safety programs at health care institutions include training for workers, management, officers and directors on their roles and responsibilities with regard to worker safety laws and regulations.

- That the Ministry of Training, Colleges and Universities, in collaboration with the Ministry of Health, the Ministry of Labour and Ontario institutions that train health care professionals, establish baseline standards on occupational health and safety and infection prevention and control measures and procedures, to be incorporated into the curricula of medical and nursing schools and schools for the allied health professions in Ontario colleges and universities.

Regional Infection Control Networks

The Ministry of Health has helped to improve infection control standards in health care by establishing Regional Infection Control Networks. To promote a safety culture in health care, it will be important that these networks foster close cooperation and collaboration between infection control and worker safety.

The Commission therefore recommends:

- That Regional Infection Control Networks have, as integral

Source: Dr. Annalee Yassi and Dr. Elizabeth Bryce, "Protecting the faces of healthcare workers: knowledge gaps and research priorities for effective protection against occupationally-acquired respiratory infectious diseases" (Occupational Health and Safety Agency for Healthcare in B.C., April 30, 2004), p. 67.

members, experts in occupational medicine and occupational hygiene, and representatives of the Ministry of Labour.

- That members of Regional Infection Control Networks be fully educated in the requirements of the *Occupational Health and Safety Act*, and its regulations.

- That regional Infection Control Networks, in dealing with worker safety issues, consult on an ongoing basis with the Ministry of Labour, workplace parties and worker safety experts.

Role of the Ministry of Labour

Despite its legal mandate to protect workers, the Ministry of Labour was largely sidelined during SARS. It was not given a role in the SARS response commensurate with its statutory duties. It was also not consulted before West Park Healthcare Centre's old tuberculosis unit was opened to accept sick health workers from the Grace, even though its perspective would have been very germane to the decision. The outbreak at the Seven Oaks Home for the Aged demonstrated that issues still remain unresolved about the role of the Ministry of Labour during an infectious disease outbreak.

The Commission therefore recommends:

- That the Ministry of Labour have the lead responsibility for setting and enforcing work safety policies, procedures and standards in the health care sector, as it does in all workplaces.

- That the Ministry of Health, as the Ministry that funds and oversees the health care delivery system, not be placed in the position of acting as an independent worker safety watchdog over its own system.

- That the Ministry of Health have the lead responsibility for developing and implementing infection control measures in the health care sector to protect patients, residents and/or clients.

- That the Ministry of Labour and Ministry of Health develop protocols, processes and procedures to ensure effective and active cooperation and coordination where their respective worker safety and infection control responsibilities overlap.
- That in any future infectious disease crisis, the Ministry of Labour

have a clearly defined decision-making role on worker safety issues in a future Provincial Operations Centre, and that this role be clearly communicated to all workplace parties.

- That the role and authority of the Ministry of Labour be clearly defined during a declared emergency. Under the *Emergency Management and Civil Protection Act*, the *Occupational Health and Safety Act* prevails, and, as such, the Ministry of Labour's mandate to communicate and enforce occupational health and safety standards for workplaces under provincial jurisdiction will remain during an emergency. How the designated lead ministry in any emergency will interact with the Ministry of Labour, so that the Ministry of Labour can continue to fulfill its mandate, should be established prior to an emergency.

- That in any future infectious disease crisis, the Ministry of Labour be consulted when health facilities that had previously been decommissioned, such as West Park's old tuberculosis unit, are reopened in response to exigent circumstances.

- That the Ministry of Health and the Ministry of Labour work together to establish an agreement and mechanism, including information technology systems, to share information related to outbreaks of infectious diseases. Such information sharing should include information about Ontario's health care facilities. The objective is to ensure compliance with the reporting of occupational illnesses to the Ministry of Labour under the *Occupational Health and Safety Act*, and to ensure that the Ministry of Labour has at its disposal all relevant information to appropriately address outbreaks of infectious diseases in health care and other workplaces.

- That the Ministry of Health and the Ministry of Labour work together to establish integrated enforcement strategies to improve compliance with occupational health and safety legislation and with legislation administered by the Ministry of Health.

- That the Ministry of Health establish a process, similar to the one available under the *Occupational Health and Safety Act*, to hold directors and officers of health care organizations accountable for compliance with provincial legislation. This may be accomplished by performance specifications in contracts or service agreements that the Local Health Integration Networks will establish with health care organizations.

The Ministry of Labour and the 1984 Agreement

During SARS, the Ministry of Labour deferred its worker safety responsibilities to the health sector, believing the health sector had the expertise and capabilities to protect workers in a manner that was consistent with provincial laws and regulations. It did this, in part, because of a 1984 Memorandum of Understanding with the Ministry of Health that was unauthorized by statute, unclear, not disseminated to interested parties like the unions, and of questionable legal authority to the extent that it might require ministry personnel to fetter their discretion and so fail to fulfill their duties in workplaces affected by infectious diseases.

The Commission therefore recommends:

- That the 1984 agreement between the Ministry of Health and the Ministry of Labour be replaced by an agreement that ensures that the Ministry of Labour, in consultation and cooperation with the Ministry of Health, take the lead in investigating infectious disease outbreaks that affect workers in a workplace.

- That the existence of any agreement setting out the respective roles and responsibilities of the Ministry of Labour and the Ministry of Health in a public health emergency be fully communicated to unions, employers, Joint Health and Safety Committees and other workplace parties.

Ministry of Labour Investigations and Prosecutions

When the Ministry of Labour decided not to lay any charges in connection with the deaths of Tecla Lin, Nelia Laroza and Dr. Nestor Yanga it did not disclose the reasons for doing so.

After SARS, critical injury and occupational illness investigations were begun very late in the one-year window for instituting prosecutions, and investigators had a very limited period to complete their work.

The Commission therefore recommends:

- Legislative amendments and policies in relation to the waiver of potential Crown privilege claims, such that in such cases where charges do not result from Ministry of Labour and other investigations of deaths and critical injuries in health workplaces, the results of the investigation and the reasons for the decision not to prosecute be made public.

- That Ministry of Labour investigations into critical injuries and occupational illnesses arising from a disaster of the magnitude of SARS be commenced and completed expeditiously.

- That a review be undertaken of section 69 of the *Occupational Health and Safety Act*, as to whether the limit on the institution of a prosecution to no more than one year after the last act or default occurred be amended.

Ministry of Labour Proactive Inspections

For reasons set out in this report, the Ministry of Labour did not conduct any proactive inspections of SARS hospitals during virtually all the outbreak. Labour's approach was vastly different from what occurred in British Columbia, where the workplace regulator began proactive inspections in early April 2003 and paid special regulatory attention to a hospital where a nurse contracted SARS. This was a missed opportunity in Ontario, although we will never know what impact that might have had on the SARS response.

The Commission therefore recommends:

- That in any future infectious disease outbreak, the Ministry of Labour take a proactive approach throughout the outbreak to ensure that health workers are protected in a manner that is consistent with worker safety laws, regulations, guidelines and best practices.

- That in any future infectious disease outbreak, the Ministry of Labour's proactive approach be clearly communicated to all workplace parties, including the Ministry of Health, public health units, employers, workers' representatives and Joint Health and Safety Committees.

- That in preparation for the possibility of a future infectious disease outbreak, the Ministry of Labour prepare effective operational plans for playing a proactive role, including establishing and training teams of occupational physicians, hygienists and inspectors to spearhead any proactive effort.

Investigations Led by the Ministry of Health

During SARS, a team from the U.S. Centers for Disease Control (CDC) was invited by the province to investigate the incident at Sunnybrook on April 13, 2003, when nine health workers were infected. Because of systemic failings, no one thought to invite the Ministry of Labour to participate, or to advise it that such an investigation was taking place. Similarly, after the Seven Oaks outbreak of legionellosis in the fall of 2005, the Ministry of Labour was not invited to participate in a Ministry of Health investigation into the response to the outbreak. In addition, the Seven Oaks investigation also would have benefited from the inclusion of worker safety experts.

The Commission therefore recommends:

- That the Ministry of Labour play an integral role in any future Ministry of Health investigation into an infectious outbreak where workers were infected, such as occurred at Sunnybrook and Seven Oaks.

- That the Ministry of Labour be given the responsibility for ensuring that any worker safety–related findings in any future Ministry of Health investigation be consistent with worker safety laws and principles.

- That any investigation into an infectious outbreak where workers were infected, such as the investigations at Sunnybrook and Seven Oaks, include experts in occupational hygiene and other worker safety disciplines.

Ministry of Labour Physician Resources

Prior to SARS, the Ministry of Labour's complement of inspectors and physicians had been sharply reduced. SARS also revealed that many Ministry of Labour inspectors lacked sufficient health care–related training. Since SARS, the Ministry of Labour has hired additional inspectors, including some dedicated to the health care sector, and increased its health care–related staff training. But it has not increased its occupational physician cadre, which had once had province-wide coverage but is now concentrated in Toronto.

The Commission therefore recommends:

- That the Ministry of Labour expand its internal resources of occupational physicians and ensure that their capabilities are available province-wide.

Worker Safety Laws and Regulations

The evidence reveals widespread, persistent and ingrained failures by the health system to understand and comply with Ontario's safety laws including the *Occupational Health and Safety Act* and related regulations. Ontario's worker safety laws are based on the Internal Responsibility System.[1034] SARS revealed an important structural problem when implementing the Internal Responsibility System in the health care sector: the fact that physicians often make worker safety decisions even though they may not be hospital employees.

The Commission therefore recommends:

[1034] The Ministry of Labour described the Internal Responsibility System as follows:

> Employers, workers and others in the workplace share the responsibility for occupational health and safety. Each party is responsible to act to the extent of the authority that they have in the workplace. This concept of the internal responsibility system is based on the principle that the workplace parties themselves are in the best position to identify health and safety problems and to develop solutions. This concept emerged from the Royal Commission into health and safety in mines in Ontario in 1976 and was soon adopted as the basis of the new *Occupational Health and Safety Act* in 1978.

Source: Ministry of Labour, presentation to the SARS Commission, November 17, 2003, p. 6.

- Worker safety in hospitals and other health care institutions requires reasonable legislative measures to include all physicians within the worker safety regime without interfering with the essential independence of physicians and without making them hospital employees. Such legislative measures may need to include not only the *Occupational Health and Safety Act* but also those statutes that govern the administration of health care institutions and the medical profession. It would be presumptuous for the Commission to recommend a prescriptive solution at this time. That task will require a good measure of consultation and a thorough analysis of the complex professional and statutory framework within which doctors work in health care institutions. The Commission recommends the amendment of worker safety, health care, and professional legislation to ensure that physicians who affect health worker safety are not excluded from the legislative regime that protects health workers. Because the prescriptive solution will require consultation and analysis and time and patience, it is essential to start now.

- That the Ministry of Labour conduct a meaningful review of the *Occupational Health and Safety Act* and related regulations in consultation with workplace parties and worker safety experts to examine how the Internal Responsibility System can better be implemented in the unique conditions of the health care system.

- That the Ministry of Labour and the Ministry of Health work together to harmonize requirements addressing health and safety in legislation and/or regulations administered by both ministries, which may overlap or conflict.

- That the Ministry of Labour and the Ministry of Health work together to review possible statutory or regulatory amendments to enhance the process for reporting, tracking and sharing of information, and removal of any barriers to information sharing related to outbreaks of infectious disease.

Joint Health and Safety Committees

The evidence reveals that Joint Health and Safety Committees, a fundamental component of Ontario's worker safety regime, were often sidelined during SARS.

The Commission therefore recommends:.

- That in any future infectious disease outbreak, the emergency response ensure the involvement of Joint Health and Safety Committees in a manner consistent with their statutory role in keeping workplaces safe.

- That worker safety programs at health care institutions include training for senior management on their roles and responsibilities with regard to Joint Health and Safety Committees.

- That management and worker representatives on Joint Health and Safety Committees be provided with appropriate training and sufficient time from their other duties to fulfill their JHSC obligations in a meaningful way, especially during public health crises.

Ontario Agency for Health Protection and Promotion, and Worker Safety

On June 22, 2004, Health Minister George Smitherman released a three-year public health action plan called Operation Health Protection. It indicated that the Ontario Health Protection and Promotion Agency and its new laboratory would begin operations in the 2006/7 fiscal year.[1035] It will be important for the Agency to play an active role in worker safety issues.

[1035] The action plan said:

> An Agency Implementation Task Force is being struck to provide technical advice on the development and implementation of the Agency. Together with the advice of international and national experts, the Ministry will establish the Agency by 2006/07.

Source: Ministry of Health and Long-Term Care, *Operation Health Protection: An Action Plan to Prevent Threats to our Health and to Promote a Healthy Ontario* (June 22, 2004), p. 23.

The Commission therefore recommends:

- That just as NIOSH, the main U.S. federal agency responsible for worker safety research and investigation,[1036] is part of the Centers for Disease Control (CDC), so the Ontario Agency for Health Protection and Promotion should have a well-resourced, integrated section that is focused on worker safety research and investigation, and on integrating worker safety and infection control.

- That any section of the Ontario Agency for Health Protection and Promotion involved in worker safety have, as integral members, experts in occupational medicine and occupational hygiene, and representatives of the Ministry of Labour, and consult on an ongoing basis with workplace parties.

- That the Ontario Agency for Health Protection and Promotion serve as a model for bridging the two solitudes of infection control and worker safety.

- That the Ontario Agency for Health Protection and Promotion ensure that it become a centre of excellence for both infection control and occupational health and safety.

- That the mandate of the Ontario Agency for Health Protection and Promotion include research related to evaluating the modes of transmission of febrile respiratory illnesses and the risk to health workers.

[1036] The duties of NIOSH (the National Institute for Occupational Safety and Health) include:

- Investigating potentially hazardous working conditions as requested by employers or employees.
- Evaluating hazards in the workplace, ranging from chemicals to machinery.
- Creating and disseminating methods for preventing disease, injury, and disability.
- Conducting research and providing scientifically valid recommendations for protecting workers.
- Providing education and training to individuals preparing for or actively working in the field of occupational safety and health.

See: http://www.er.doe.gov/ober/humsubj/appendix_b.pdf7. Naylor Report, pp. 52-5.

This research should also identify the hierarchy of control measures required to protect the health and safety of workers caring for patients with the respiratory illnesses.

Pandemic Planning

As occurred during SARS, there is now a debate over how influenza is spread and how health workers should be protected during a pandemic. Some experts believe influenza is mostly droplet-spread and surgical masks would be sufficient protection for health workers. Others believe that airborne transmission is a possible means of spreading influenza, and health workers should, as a result, wear fit-tested N95 respirators when caring for people suffering from a pandemic flu virus. The Commission is not in a position to wade into this evolving scientific debate. However, it is worth noting how the CDC has used the precautionary principle in addressing this issue. The CDC is saying, in effect, we don't know enough about how a pandemic influenza might be spread, so it's better to be safe than sorry. It is the kind of precautionary approach all pandemic planners should carefully consider.

The Commission therefore recommends:

- That the precautionary principle guide the development of pandemic-related worker safety policies, practices, procedures and guidelines.

- That in the development and implementation of the Ontario pandemic plan, the Ministry of Labour have responsibility for, and oversight over, all worker safety policies, practices, procedures and guidelines.

- That the Ministry of Labour ensure that the Internal Responsibility System and Joint Health and Safety Committees play a meaningful role in a pandemic response.

Pre-Planned Emergency Response Regarding Funerals

The families of SARS victims often were unable to have a traditional funeral. In some cases, funeral visitations were forbidden, or restricted. Mourners had to stand off at a distance at one burial. For some, there was no closure. Learning from this will be important in the event of another public health crisis like SARS, or if there is a flu pandemic.

The Commission therefore recommends:

- A pre-planned response involving the funeral industry, the Ministry of Health, public health, the hospital community, Emergency Measures Ontario and the office of the Chief Coroner, supported by agreed policies, procedures, protocols, memoranda of understanding and tabletop drill exercises to prevent the problems that arose during SARS.

Emergency Legislation

Ontario has passed into law the *Emergency Management and Civil Protection Act*, to fill the emergency power vacuum that existed at the time of SARS. It is understandable that the government, in its determination to have some kind of law in place before the next emergency struck, did not stop to address all the specific emergency legislation problems noted in detail in the hundred pages of Chapter 11 of the Commission's second interim report of April 5, 2005. These problems are serious but easily remedied now. They include:

- The overreaching power to suspend the *Habeas Corpus Act*, the *Elections Act*, the *Legislative Assembly Act*, and other constitutional foundations of ordered liberty under law.

- The power to lock up journalists without trial for violating gag orders.

- The failure to blueprint compensation for those who really need it, such as those quarantined, medical workers deprived of their livelihood and those whose jobs are disrupted.

- The failure to protect medical decisions of the Chief Medical Officer of Health from Emergency Commissioner encroachment.

- The failure to carry out clause-by-clause legal and constitutional scrutiny and obtain a detailed bill of health from the Attorney General.

- The confusion between the emergency powers and the regular *Health Protection and Promotion Act* powers.

It is understandable that the government in its desire to get the emergency legislation into place before the next disaster did not pause to address and to answer in detail the flaws referred to in the Commission's April 2005 report, flaws which are serious but easily remedied. The government has taken no public position in respect of the detailed flaws noted by the Commission. It is not as if the unimplemented recommendations have been considered and rejected for publicly stated reasons. The unimplemented recommendations have simply not been addressed publicly. The problems that have not been addressed and answered are noted in the chart at the end of this section.

The problem is not with the good intentions of those who will administer and exercise the emergency powers. The problem is that these awesome powers represent a profound change in our legal structure and raise issues that need to be addressed further in this statute that so fundamentally alters our system of government by law. Extraordinary powers like those in the *Emergency Management and Civil Protection Act* are inherently dangerous and require now the sober second thought and detailed legal clause-by-clause review and publicly stated justification which they did not explicitly receive before.

Ontario's emergency legislation brings to mind what President Lyndon Johnson said about the potential danger of all laws:

> You do not examine legislation in the light of the benefits it will convey if properly administered, but in the light of the wrongs it would do and the harms it would cause if improperly administered.

The Commission recommends the review and amendment of the emergency legislation in accordance with the unimplemented recommendations in Chapter 11 of the Commission's April 2005 second interim report.

Emergency Recommendations

Topic	Recommendation	Status
Encourage Compliance	• Include basic blueprint for compensation for loss caused by emergency powers, for example, quarantine wage loss.	Not yet implemented
Prevent Prepare Cooperate	• Provide for integration of emergency plans, and include explicit requirement that emergency plans establish clear allocations of powers and lines of authority.	Not yet implemented
Clarify Overlap with Existing Public Health Powers	• Clarify the relationship between the emergency powers conferred by this Bill and the powers conferred by the HPPA.	Not yet implemented
Primacy of CMOH	• Recognize explicitly the primary authority of CMOH in respect of the public health aspects of emergencies.	Not yet implemented
Emergency Commissioner Must Consult CMOH	• Require consultative exercise of powers as between the CMO and the CEM.	Not yet implemented
Emergency Powers	• Attorney General to conduct detailed clause-by-clause review of each proposed power for viability against legal and constitutional challenges.	Not yet implemented
	• Clarify whether the Bill incorporates the specific public health emergency powers listed in Commission's second interim report.	Not yet implemented

	• No power of compulsory immunization before evidence as to its efficacy is available.	Accepted
	• Review compulsory immunization legal issues to develop procedures that encourage immunization of health workers and public, akin to school-child immunization system	Not yet implemented
Property Seizure	• Clarify whether the Bill mandates the seizure or expropriation of property.	Accepted
	• Subject each proposed power to a thorough practical, legal, and policy analysis prior to adoption.	Not yet implemented
	• Where such analysis is not possible before enactment, impose a sunset period of no more than 2 years on the proposed power.	Not yet implemented
Power to Override All Other Laws	• Clarify whether the Bill's purported override of other laws and legal rights affects collective agreements.	Not yet implemented
	• Insulate fundamental statutes from the Override	Not yet implemented
	• Reposition the Override to highlight its importance.	Not yet implemented
	• Review constitutional legitimacy of the Override.	Not yet implemented
The Information Override	• Clarify the scope of the government's power to compel the disclosure of information.	Not yet implemented
Declaration Standard	• Amend the standard applicable to the declaration of emergencies so as to rely on the reasonable perception of the decision-maker.	Accepted

Emergency Orders	• Amend the standard applicable to the making of emergency orders so as to rely on the reasonable perception of the decision-maker.	Accepted
Power to Implement Emergency Plans	• Ensure there is no unintended conferral of powers.	Not yet implemented
Access to Courts	• Provide for access to legal process during emergencies.	Not yet implemented
Basket Power	• Incorporate an objective reasonableness standard into the language governing the use of this power.	Not yet implemented
Occupational Health and Safety	• Require emergency plans to provide for advance consideration of potential OHS issues.	Not yet implemented
Concurrent Powers	• Provide that conferral of new emergency powers does not derogate from existing powers.	Accepted
Liability Shield	• Provide protection from liability for acts which are necessitated by an emergency and which are authorized by other statutes but not the EMA – and vice versa.	Not yet implemented

APPENDICES: Letter of Appointment

Ministry of Health
and Long-Term Care

Office of the Minister
10th Floor, Hepburn Block
80 Grosvenor Street
Toronto, ON M7A 2C4
Tel: 416-327-4300
Fax: 416-326-1571
www.gov.on.ca/health

June 10, 2003

The Honourable Mr. Justice Archie G. Campbell
130 Queen Street West
Toronto, ON M5H 2N5

Dear Mr. Justice Campbell:

This letter will confirm your appointment as an independent Investigator, pursuant to section 78 of the *Health Protection and Promotion Act*, to investigate the recent introduction and spread of Severe Acute Respiratory Syndrome (SARS). I would like to express my thanks for your valuable input into the development of the Terms of Reference for this inquiry, a copy of which is appended hereto.

As you are aware, persons who disclose information to you in the course of your investigation will be protected from any adverse employment action, pursuant to Section 9.1(1) of the *Public Inquiries Act*.

As indicated in the Terms of Reference, you will deliver your reports to me and I will release them to the public. You will receive resources and support staff through the Ministry of the Attorney General, pursuant to paragraph 7 of the Terms of Reference.

In accordance with the attached Order in Council, all Government ministries, agencies, boards and commissions and their employees have been directed to co-operate with your investigation and to respect its independence.

On behalf of the Government and the people of Ontario, I thank you for agreeing to accept this most important mandate.

Yours very truly,

Tony Clement
Minister

Order in Council

Ontario
Executive Council
Conseil exécutif

On the recommendation of the undersigned, the Lieutenant Governor, by and with the advice and concurrence of the Executive Council, orders that:

Sur la recommandation de la personne soussignée, le lieutenant-gouverneur, sur l'avis et avec le consentement du Conseil exécutif, décrète ce qui suit:

WHEREAS the Minister of Health and Long-Term Care has appointed the Honourable Mr. Justice Archie G. Campbell to investigate the recent introduction and spread of Severe Acute Respiratory Syndrome ("SARS") pursuant to section 78 of the Health Protection and Promotion Act;

WHEREAS the Minister of Health and Long-Term Care has provided Mr. Justice Campbell terms of reference for the investigation in a letter dated June 10, 2003;

WHEREAS persons who disclose information to Justice Campbell in the course of his investigation will be protected from any adverse employment action;

AND WHEREAS it is desirable to support Mr. Justice Campbell's investigation and to mandate full co-operation with him by all Government ministries, boards, agencies and commissions:

ALL Government Ministries, Boards, Agencies and Commissions, and their employees, shall assist Mr. Justice Campbell to the fullest extent in order that he may carry out his investigation;

ALL Government Ministries, Boards, Agencies and Commissions shall respect the independence of the investigation;

THE Attorney General shall furnish Mr. Justice Campbell with the resources and support referred to in paragraph 7 of the terms of reference for the investigation.

Recommended: ______________________
Minister of Health and
Long-Term Care

Concurred: ______________________
Chair of Cabinet

Approved and Ordered: June 10, 2003
Date

____
Lieutenant-Governor

O.C./Décret 1230/2003

Terms of Reference

Independent SARS Commission
Terms of Reference

1. The subject matter of the investigation shall be:

   (a) how the SARS virus was introduced here and what measures, if any, could have been taken at points of entry to prevent its introduction;

   (b) how the SARS virus spread;

   (c) the extent to which information related to SARS was communicated among health care workers and institutions involved in dealing with the disease;

   (d) whether health care workers and patients in health care treatment facilities and long-term care facilities were adequately protected from exposure to SARS, having regard for the knowledge and information available at the time;

   (e) the extent of efforts taken to isolate and contain the virus and whether they were satisfactory or whether they could have been improved;

   (f) existing legislative and regulatory provisions related to or that have implications for the isolation and containment of infectious diseases, including the quarantine of suspected carriers;

   (g) any suggested improvements to provincial legislation or regulations, and any submissions that the Province of Ontario should make concerning desirable amendments to federal legislation or regulations; and,

   (h) all other relevant matters that Mr. Justice Campbell considers necessary to ensure that the health of Ontarians is protected and promoted and that the risks posed by SARS and other communicable diseases are effectively managed in the future.

2. The investigation shall be conducted in a manner that does not impede ongoing efforts to isolate and contain SARS.

3. Mr. Justice Campbell may request any person to provide relevant information or records to him where he believes that the person has such information or records in his, hers or its possession or control.

4. Mr. Justice Campbell shall hold such public or private meetings as he deems advisable in the course of his investigation.

5. Mr. Justice Campbell shall conduct the investigation and make his report without expressing any conclusion or recommendation regarding the civil or criminal responsibility of any person or organization, without interfering in any ongoing criminal, civil or other legal proceedings, and without making any findings of fact with respect to civil or criminal responsibility of any person or organization.

6. Mr. Justice Campbell shall produce an interim report at his discretion and deliver it to the Minister of Health and Long-Term Care who shall make the report available to the public. Upon completion of his investigation, Mr. Justice Campbell shall deliver his final report containing his findings, conclusions and recommendations to Minister of Health and Long-Term Care who shall make such report available to the public.

7. To conduct his investigation Mr. Justice Campbell shall be provided with such resources as are required, and be authorized by the Attorney General and shall have the authority to engage lawyers, experts, research and other staff as he deems appropriate, at reasonable remuneration approved by the Ministry of the Attorney General.

8. The reports shall be prepared in a form appropriate for release to the public, pursuant to the *Freedom of Information and Protection of Privacy Act*.

9. These terms of reference shall be interpreted in a manner consistent with the limits of the constitutional jurisdiction of the Province of Ontario.

In the event that Mr. Justice Campbell is unable to carry out any individual term of his mandate, the remainder of these terms of reference shall continue to operate, it being the intention of the Minister of Health and Long-Term Care that the provisions of these terms of reference operate independently.

Commission Team

Commissioner

Mr. Justice Archie Campbell has served as a Superior Court trial judge since his appointment in 1986 as judge of the High Court of Justice of the Supreme Court of Ontario, after posts as deputy attorney general and senior Crown counsel.

For approval to serve as Commissioner I am grateful to the Honourable Heather Smith, Chief Justice of the Superior Court, and to the Honourable Warren Winkler, Regional Senior Judge for Toronto.

To my judicial colleagues who shouldered my share of work during the SARS investigation, and to Chief Justice Roy McMurtry for his continuing support and encouragement, I owe a debt of gratitude.

Commission Team

To hand-pick your own team is a rare opportunity. It was my great fortune to work with a small team, the brightest and the best, on whom depended the work of the Commission. Any merit that accrues to the work of the Commission is entirely to their credit.

Counsel

Doug Hunt, Commission Counsel, a leader of the Ontario bar and a former assistant deputy attorney general for criminal law, has earned the highest professional respect through his work in the courts as leading counsel and through his continuing service in many capacities to the administration of justice.

His wise counsel and advice, legal learning and superb judgment complimented his skill in the thoughtful and effective management, with great distinction, of a complex and challenging project. No Commissioner has been better served by counsel.

Associate Counsel

Jennifer Crawford, associate Commission counsel, is a 10-year assistant Crown attorney with an excellent reputation in the courts, seconded through the generosity of Mr. Paul Culver, Crown Attorney for Toronto.

An indefatigable, thoughtful, and enormously dedicated worker, tough-minded yet scrupulously fair, meticulous in her insistence on factual accuracy, gifted with the highest level of professional skill and judgment, she exacted the highest standard of professional performance from herself and inspired her colleagues to do the same.

Senior Adviser

Mario Possamai, a former journalist and seasoned investigative researcher, performed outstandingly and produced magnificent work as a senior advisor. No colleague could be more helpful and supportive. No researcher could be more determined or produce work of greater thoroughness, thoughtfulness and depth.

Investigators

It was the Commission's privilege to enjoy the services of three highly experienced and widely respected police officers, who served successively as senior investigator to the Commission: Deputy Chief Ron Bain of the Peel Regional Police Service (now retired), Superintendent Eugene Kerrigan of the York Region Force and Acting Inspector Rick Huffman of the Toronto Police Service.

These officers displayed the highest level of investigative skill and judgment in the same manner that has distinguished their outstanding careers in law enforcement.

They were ably assisted in a part-time capacity by Barry Hill, a retired Toronto Police officer.

The Commission is grateful to Chief Armand La Barge of York Region for the secondment of Superintendent Kerrigan and to Chief William Blair of the Toronto Police Service for the secondment of Acting Inspector Huffman.

Editor

To the task of editing and producing the Commission's reports to the highest standard Jim Poling, Sr., a master of the English language and a most skilful, thoughtful, and effective editor, applied his great depth of experience as a journalist, editor and author.

Administrators

The Commission was extremely well served by David Henderson as Chief Administrative Officer and by Kathy Genore as Manager, Finance and Operations, a key member of the Commission team who made an enormous contribution to its work. Their deep experience in the management of independent Commissions ensured the smooth running of the Commission's work. The taxpayer is well served by the tight fiscal accountability they ensured as watchdogs over the expenditure of public funds.

The Commission is grateful to Sarina Kashak, Manager Court Operations Durham for Ms. Genore's secondment to the Commission.

Communications Officer

The Commission benefited greatly from the skill and wise advice of Peter Rehak, admirably suited to the job through his distinguished record in journalism, television, and Commission administration.

Support Staff

The challenging tasks of office support in a demanding working environment were achieved cheerfully, with great skill and competence, by Clita Saldhana, Andrea Luedecke, Sandra Leal, Arlette Al-Shaikh, and Abbie Adelman with welcome assistance from Anita Tse of Hunt Partners LLP. They displayed the finest qualities of grace under pressure.

Consultants

Peter Lawson, a member of the Ontario bar and a legal researcher of formidable ability, assisted the Commission in a number of legal research projects. Michael O'Driscoll, a member of the Ontario bar and a legal consultant, also made a valuable contribution.

For medical research, the Commission is grateful to Dr. David Naylor, President of the University of Toronto, for recommending the services of Dr. Adrienne Chan, Dr. Christopher M. Booth and Dr. Sheldon Singh, who so ably assisted the Commission in a number of medical research projects.

Note on Public Hearings

SARS Commission Public Hearings
List of Presenters
and
Commissioner's Remarks

September 29th, 2003

Opening Remarks — Mr. Justice Archie Campbell
Upon commencing at 10:00 a.m.

Mr. Justice Campbell: Good morning. Since March of this year forty-four (44) members of our community have lost their lives to SARS. Will you please stand for a minute of silence to remember those who died.

(Moment Of Silence)

Mr. Justice Campbell: Thank you. These three (3) days of public hearings were announced in early August and were widely advertised. We invited those who wished to make public submissions to do so. The response has been strong. We added five (5) hours to this week's hearings. We will hold the further public hearings on November the 17th to accommodate those who applied but could not be heard this week because so many had applied.

This is an investigation under the *Health Protection Act*. We conduct the investigation mainly by confidential personal interview. We have spoken so far to around ninety (90) people, perhaps closer to one hundred (100) as of today. We've spoken to victims of SARS. We've spoken to some of those who have lost family members. We've spoken to health care workers who became ill, some of them gravely ill, with SARS.

It is very difficult for people who have been through this to talk about the grief and to discuss their loss, even in a confidential interview. I thank those who have shared their experiences with us and those who will be speaking to us in the months ahead. Although the interviews themselves are confidential, their stories will be told in the public report with due concern for their personal privacy.

These public hearings represent a very small portion of our work and they give to those who have asked an opportunity to reach a wider public audience. The transcripts of these proceedings will be available on the Commission's public web page.

The public has a right to know what happened during the SARS outbreak in Ontario. My job is, first, to investigate and to report publicly on what went right, what went wrong, what lessons should be learned. The full Terms of Reference are on our web page. I think a few copies are available here today. And I, in the report, will make public recommendations to improve our ability to protect the public and health care workers against deadly infections like SARS.

The *Public Inquiries Act* protects from any form of workplace reprisal every person who speaks to the Commission at these public meetings or in private interviews or who approaches us with information. The Commission cannot make findings of civil or criminal liability against any person or organization.

Please keep in mind these public hearings are not a forum to point fingers or to allege blame in relation to individuals. We are still in the information-gathering phase of the investigation and during these public hearings I will not question the presenters. I will not question any presenter at this time, except perhaps for clarification.

At a later stage in the investigation, we will continue to interview in depth people about detailed problems, particular problems, specific concerns and at that phase of the investigation, we will probe more deeply.

We have a lot of people here today. All the time slots have been scheduled in advance, and as you can see, it's a pretty tight schedule. If you have not registered to speak but you would like to speak to us; if there's something you want to tell us and you want to have a confidential interview, please speak to members of Commission staff who are here today.

For the presenters, I really would ask you please respect your time limit so that each presenter has a fair chance to be heard.

Ontario Nurses' Association
Registered Nurses Association of Canada

Ontario Medical Association
Ontario Association of Community Care Access Centres
Community Coalition Concerned About SARS
Dr. Colin D'Cunha – Chief Medical Officer Of Health
The Ontario College of Family Physicians and the Family Physicians Toronto
Sunnybrook & Women's College Health Sciences Centre
Toronto Emergency Medical Services

September 30th, 2003
Dr. Richard Schabas
Dr. James Young
St. Michael's Hospital
Customs Excise Union Douanes Accise
Canadian Union of Public Employees
Service Employees International Union
Ontario Public Service Employees Union
Ontario Ministry of Health and Long-Term Care
North York General Hospital
Scarborough Hospital
Ontario Hospital Association
Ontario Association of Radiologists

October 1st, 2003
Peterborough County-City Health Unit
Association of Local Public Health Agencies
York Regional Public Health, Health Services Department, Public Health Branch
Ontario Long Term Care Association
Victorian Order of Nurses
Ontario SARS Scientific Advisory Committee
Mr. David McKinnon and Dr. David McLeod
College of Respiratory Therapists of Ontario
College of Physicians and Surgeons of Ontario
Humber River Regional Hospital
York Central Hospital
University Health Network
William Osler Health Centre
Rouge Valley Health System
The Hospital for Sick Children

November 17th, 2003

Upon commencing at 9:00 a.m.

Mr. Justice Campbell: As we begin this second session of public hearings, it's important to us to remember again the deaths from SARS of forty-four (44) members of our community. Their deaths and the sacrifices made by the front-line workers, all of those who suffered from SARS and all of those who fought it continue to motivate the work of all of us who are concerned about the outbreak and everyone who investigates it in the search for the facts of what happened and of the lessons we must learn.

Beginning in August of this year, a series of newspaper ads and radio announcements invited public submissions from anyone who wished to speak out in public about SARS. From September 29th to October 1st, we heard thirty-seven (37) presentations and in the next three (3) days, we will hear from the rest of those who asked to be heard in public.

It's important to note that those who present at these hearings are not questioned or cross-examined publicly. This investigation under the *Health Protection and Promotion Act* is driven by confidential personal interviews. There's no provision for adversary-type hearings and there's no provision for cross-examination. During the course of this investigation questioning, as in any other investigation, takes place during the course of the confidential interviews. We have followed up in the confidential interviews with a number of those who presented at the last sessions and we will continue to do so with those who presented then and those who present in these sessions.

We've interviewed about two hundred (200) people and hundreds of interviews and followup interviews remain to be conducted. There is a great mass of documents to analyze.

In order to present the public with a full account of what happened in the SARS outbreak, in order to make sensible recommendations for future change, a great deal of work remains to be done. It will be approximately a year before I can be confident that the facts have been thoroughly enough investigated to support a final report that tells the public what happened and answers the questions that the public need to have answered.

In the meantime, other reports have been released to the public. Dean Naylor's excellent report for the federal government, *Learning from SARS: Renewal of Public Health in Canada*, is extremely helpful, provides great insight and sheds a lot of light on many of the areas under investigation by this Commission. Senator Michael Kirby's Commission – Senate hearings have produced a similarly outstanding and very useful report on public health infrastructure, after hearing from the wide range of public health people including some of those involved in the recent SARS outbreak.

Dean David Walker's forthcoming report to the provincial Ministry of Health is expected to explore in detail a number of research areas with a focus on future recommendations in the nature of policy lessons learned from SARS and health systems approach to consider for the future. One of our tasks is to integrate the results of all that work into our detailed investigations, the findings and analysis of the introduction and spread of SARS in Ontario.

The next two (2) days of public hearings, tomorrow and Wednesday, and today, will accommodate the balance of those who asked to make public statements. During the daytime session today, we're also having an evening session, but during the daytime session we'll hear from those invited by the Commission to explore a fundamental yet somewhat ignored issue of critical importance.

And that critical issue is workplace health and safety. It is fundamental that we understand that hospitals are workplaces. It's fundamental we understand that hospitals, like all workplaces, are subject to a system of legal obligations under the *Occupational Health and Safety Act* and regulations; that legal system is designed to protect the health and safety of hospital workers and other health workers; that legal regime depends on the principle of internal responsibility supported by a system of workplace health and safety committees and enforced and supported by a system of inspection and investigation through the Ontario Ministry of Labour.

The application of workplace health and safety principles in hospitals during the SARS outbreak will provide a focus for most of the daytime presentations today. This evening, we will continue with presentations by family members and concerned citizens affected by SARS.

Ontario Nurses' Association and Ontario Public Service Employees Union
Registered Nurses Association of Ontario
Service Employees International Union
Canadian Union of Public Employees
Ontario Ministry of Labour
Ontario Hospital Association
Occupational Health Management Services
Occupational Health Clinics for Ontario Workers Inc.

Dr. Peter Strahlendorf
Bernadette Stringer
Lisa Karunakaran
Kathleen Valin
Linda Rumble
Christine Gibson
Jan Nichols
The Toronto Health Coalition and Families Advocating for Reform of the Coroner's Office
Susan Fraser

November 18th, 2003
Ontario Health Coalition
Ontario Public Health Association
Medical Staff Association of the Rouge Valley Health System and the Coalition of Family Physicians of Ontario.
Dr. Joyce Nyhof-Young
Ontario Restaurant Hotel and Motel Association
Ontario Council of the Canadian Federation of University Women
Metro Toronto Chinese & Southeast Asian Legal Clinic

November 19th, 2003
CMO Health Care
Canadian Centre for Emergency Preparedness
James Ashton
Ontario Pharmacists Association
Association of Ontario Midwives
Dr. Jean-Louis Durier
Elivery Solutions Inc. and Dr. McQuigge
Micrylium
GE Lighting Canada
Bonnie Case

Mr. Justice Campbell: Thank you for your presentation. That concludes this second session of public hearings – in the course of the six (6) days of public hearings for a total of about seventy-five (75) presentations on behalf of many organizations and many individuals affected by SARS.

On Monday night, two (2) evenings ago, we heard how SARS affected families. The presentations by family members and their personal stories were compelling. It was difficult for people to talk about their grief and we thank them, and all participants who came here, for sharing their experiences, their thoughts, their recommendations with us in public.

These public hearings represent but a very small portion of our work and they give, to those who have asked, an opportunity to reach a wider public audience. The bulk of our work consists of confidential personal interviews and we have so far conducted about two hundred (200) of those.

Those who present at the public hearings, you obviously noted, are not questioned or cross-examined publicly. Questioning takes place during the course of our confidential interviews and not in public. We have conducted follow-up interviews with a number of those who presented at the last public session. We continue to do so with them and we will continue to do with a number of those who presented at the earlier sessions and at these sessions.

Again, I wish to thank everyone who participated in these hearings. The purpose of these Public hearings is now fulfilled. Everyone who asked to make a public presentation has now been heard and no further public hearings are scheduled at this time. The investigation continues. Thank you.

Note

Transcripts of the public hearings are available on the Commission's website, which will remain active for another year at www.sarscommission.ca.

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